

101
YEARS

ICE

**'everything
working'**

**Grease
Handling**



**Fluid
Dispensing
& Recovery**



**Pumps
& Fluid
Handling**



**Manual &
Mechanical
Handling**



**Jerry Cans
& Drums**



**Sheet
Metal**



industrial & garage equipment

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At IGE we aim to cater for all the needs of the industrial workplace – factory, garage, warehouse or workshop. Established in 1886, our Company was incorporated in 1915 giving us an engineering heritage that is unrivalled in our industry. We set the highest technical standards over a century ago, and we strive to maintain them when adding new designs and innovations to our ever increasing range. In these pages you will find a comprehensive and varied range of products selected to provide solutions for the majority of working environments, supplying equipment of simplicity, practicality, safety and, of course, quality. Our own brands include Baelz, Hartle, James H. Vickery, Paramount, Roach Pumps and Scot Urquhart; furthermore, we are proud to act as agents for the following international brands:



◀ Our management team are on hand for all your enquiries



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All orders are processed at head office. Goods are despatched daily and should be delivered before 4.30 p.m. the following day. We can deliver direct to you or to a third party using either our own fleet or one of our freight partners.



We are here to help – please call us on

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YOU CAN NOW PLACE ORDERS ONLINE

Please go to our website and register – once you have registered, please send us an email to let us know, and we will convert your status to re-seller. You will then be able to see your discounts and they will be applied to your orders online.

HOW TO PLACE AN ORDER ONLINE

- Log-in and click on the product(s) you wish to order
- Select the **QUANTITY** you require
- Click **'ADD TO BASKET'**
- Click **'CHECKOUT'**
- Check that the details are correct
- At bottom of page, select **'ACCOUNT CUSTOMER'**
- Click **'I've read and accept the terms & conditions'**
- Click **'PLACE ORDER'**

Your order will then be processed same day and delivered next day. You will receive acknowledgments and updates as your order progresses.

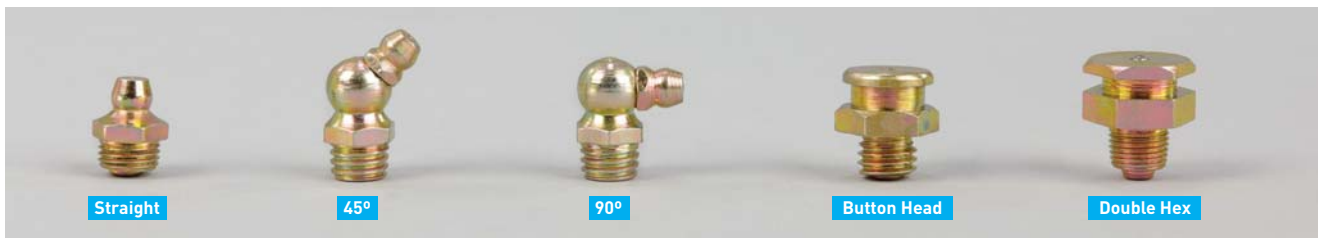
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GREASE NIPPLES

Hardened steel hydraulic nipples with a durable zinc plated finish.

- batch tested to 8000 psi
- case hardened
- zinc plated
- manufactured to DIN 71412
- supplied in packs of 100



Hydraulic Nipples

Imperial

Code	Description	Price / 100
BSP		
BGNIP12S	1/8" straight	£15.00
BGNIP124	1/8" 45°	£15.00
BGNIP129	1/8" 90°	£15.00
BGNIP25S	1/4" straight	£19.00
BGNIP254	1/4" 45°	£28.00
BGNIP259	1/4" 90°	£28.00
BSF		
BGNIF25S	1/4" straight	£15.00
BGNIF254	1/4" 45°	£15.00
BGNIF259	1/4" 90°	£15.00
BGNIF31S	5/16" straight	£12.35
BGNIF314	5/16" 45°	£15.00
BGNIF37S	3/8" straight	£15.00
BGNIF374	3/8" 45°	£15.00
BSW		
BGNIW25S	1/4" straight	£33.25
BGNIW254	1/4" 45°	£33.25
BGNIW259	1/4" 90°	£33.25
BGNIW31S	5/16" straight	£38.50
UNF		
BGNIU25SL	1/4" long straight	£14.00
BGNIU25S	1/4" straight	£12.00
BGNIU254	1/4" 45°	£14.00
BGNIU259	1/4" 90°	£14.00
BGNIU31S	5/16" straight	£9.80
BGNIU314	5/16" 45°	£15.00
BGNIU319	5/16" 90°	£15.00

Hydraulic Nipples

Category D

Metric

Code	Description	Price / 100
M6		
BGNM061S	M6 x 1 straight	£7.25
BGNM0614	M6 x 1 45°	£16.00
BGNM0619	M6 x 1 90°	£16.00
M8		
BGNM081S	M8 x 1 straight	£10.00
BGNM0814	M8 x 1 45°	£18.00
BGNM0819	M8 x 1 90°	£18.00
BGNM082S	M8 x 1.25 straight	£9.25
BGNM0824	M8 x 1.25 45°	£18.25
BGNM0829	M8 x 1.25 90°	£19.00
M10		
BGNM101S	M10 x 1 straight	£11.00
BGNM1014	M10 x 1 45°	£19.00
BGNM1019	M10 x 1 90°	£19.00
BGNM105S	M10 x 1.5 straight	£11.25
BGNM1054	M10 x 1.5 45°	£19.00
BGNM1059	M10 x 1.5 90°	£19.00



Please refer to flap on inside back cover for material definitions & other technical terms

Buttonhead Nipples

Imperial

Code	Description	Price / 100
BSP		
BGNBIP12	1/8"	£23.00
BGNBIP25	1/4"	£25.00
BSF		
BGNBIF25	1/4"	£28.00

Double Hexagon Nipples

Code	Description	Price / 100
BSP		
BGNBIP12D	1/8"	£19.95
BGNBIP25D	1/4"	£23.50

Buttonhead Nipples

Category D

Metric

Code	Description	Price / 100
M8		
BGNBM081	M8 x 1	£21.50
BGNBM082	M8 x 1.25	£22.00

Code	Description	Price / 100
M10		
BGNBM101	M10 x 1	£22.00
BGNBM105	M10 x 1.5	£22.00

Grease Nipple Sets Category D

Grease nipples supplied in convenient plastic cases comprising seven compartments.

150-piece Metric Set ref BGNM

Price £32.00

M6 x 1: 20 x straight / 10 x 45° / 10 x 90°

M8 x 1: 15 x straight / 10 x 45° / 10 x 90°

M8 x 1.25: 15 x straight / 5 x 45° / 5 x 90°

M10 x 1: 15 x straight / 5 x 45° / 5 x 90°

M10 x 1.5: 15 x straight / 5 x 45° / 5 x 90°



80-piece Imperial Set ref BGNSI

Price £32.00

1/8" BSP: 20 x strrt / 8 x 45° / 7 x 90° / 5 x buthd

1/4" BSP: 5 x straight

1/4" BSF: 6 x straight

1/4" UNF: 10 x straight / 7 x 45° / 7 x 90°

1/4" UNFL: 5 x straight

GREASE COUPLERS

Couplers and Connectors 1/8" BSP x 28 pt

Category D

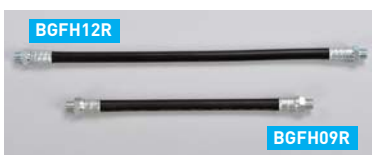
Code	Description	Price each
BGHC4	4-jaw hydraulic coupler	£1.00
BGNNPO	Push-on	£0.75
BGNNCC	Conical (pointed)	£0.60
BGNRGC6	Conical lube coupler	£3.25
BGNNSO	Slide-on	£2.50
BGNNHO	Hook-on	£2.50
BGNNHOG	Giant hook-on	£4.95
BGNNUS	Universal swivel buttonhead (knuckle)	£3.50
BGNNCE	1" MF extension	£0.70



Grease Spouts 1/8" BSP x 28 pt

Flexible Grease Gun Extension Spouts Category D

Code	Description	Price each
BGFH09	9" (228 mm) PVC	£1.99
BGFH09R	9" (228 mm) rubber	£3.25
BGFH12	12" (300 mm) PVC	£2.30
BGFH12R	12" (300 mm) rubber	£3.80
BGFH20	18" (500 mm) PVC	£3.40
BGFH24	24" (600 mm) PVC	£3.80
BGFH40	39" (1000 mm) PVC	£3.95
BGFH60	60" (1500 mm) PVC	£5.25



Rigid Grease Gun Extension Spouts

Code	Description	Price each
BGGS06	6" (152 mm) straight plated steel	£1.50
BGGS06C	6" (152 mm) cranked plated steel	£1.50
BGGS10	10" (254 mm) straight plated steel	£1.75
BGGS10C	10" (254 mm) cranked plated steel	£1.75



Air Grease Equipment Couplers

Category D

Code	Description	Price each
BGN40806	Air pressure regulator 1/4" x 1/4" BSPF	£24.00
BGN10111	Straight swivel 1/4" bspf x 1/8" bspm	£10.00
BGN10121	Z-swivel 1/4" bspf x 1/8" bspm	£16.00
BGN14611	Short right-angle coupler	£7.00
BGN14614	Right-angle needle point coupler	£7.00
BGN14616	Button head coupler	£12.00
BGN14622	Giant button head coupler	£14.00



GREASE GUNS

Push Guns - Metal



Model No.	BGGTM08	
Price	£4.95	Category D
Capacity	80 cc	
Weight	350 g	

Model No.	BGGTM15	
Price	£5.95	Category D
Capacity	150 cc	
Weight	450 g	

Model No.	BGGTM30	
Price	£6.95	Category D
Capacity	300 cc	
Weight	650 g	

Common Specification	
Body material	metal
Operation	one-hand push gun type

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Push Guns - Plastic

**PRICE
DROP**

Model No.	BGGT065	
Price	£2.25	Category D
Capacity	65 cc	
Weight	75 g	

Model No.	BGGT150	
Price	£2.95	Category D
Capacity	150 cc	
Weight	100 g	

Common Specification	
Body material	plastic
Operation	one-hand push gun type



Side Lever Guns

100cc	Category D
Model No.	BGG01
Price	£2.95
Capacity	100 cc
Weight	500 g



500cc	Category D
Model No.	BGG16
Price	£10.95
Weight	1.25 kg
WP / BP	4500 / 10000 psi
Capacity	16 oz / 500 cc cartridge ~ 600 cc bulk fill
Operation	side lever



400cc	
Model No.	BGG14
Price	£8.45
Weight	1.05 kg

Model No.	BGG14A	
Price	£9.95	Category D
Additional info	<ul style="list-style-type: none"> • air release valve • filler valve for bulk fill pump 	
Weight	1.3 kg	



Model No.	BGG402	
Price	£19.95	Category D
Additional info	<ul style="list-style-type: none"> • extra heavy duty • wp 9000 psi • air release valve • filler valve for bulk fill pump 	
Weight	1.65 kg	

Common Specification	
WP / BP	4500 / 10000 psi
Capacity	14 oz / 400 cc cartridge ~ 500 cc bulk fill
Operation	side lever

**BEST
QUALITY**

Please refer to flap on inside back cover for material definitions & other technical terms

Pistol Grip Guns



BGG03



BGG03



BGG03A

120 cc	
Model No.	BGG03
Price	£5.95 Category D
Weight	500 g

Model No.	BGG03A
Price	£9.95 Category D
Additional info	additional flexible outlet spout
Weight	800 g

Common Specification

WP / BP	4500 / 10000 psi
Additional info	2-position outlet spout can be moved thro 90 degs.
Capacity	3 oz cartridge / 120 cc bulk fill
Operation	2-way pistol grip



BGG03A

400cc	
Model No.	BGG14PF
Price	£10.95 Category D
Additional info	flexible outlet spout
Weight	1.2 kg

Model No.	BGG142W
Price	£13.95 Category D
Additional info	2-position outlet spout can be moved thro 90 degs.
Weight	1.4 kg

Common Specification

WP / BP	4500 / 10000 psi
Capacity	14 oz / 400 cc cartridge - 500 cc bulk fill
Additional info	<ul style="list-style-type: none"> air release valve filler valve for bulk fill pump
Operation	2-way pistol grip



BGG14PF



BGG142W



BGG142W

Clamp Holder

PRICE DROP



Model No.	BGGCH
Price	£1.95 Category D

A clamp action holder for fastening & retaining grease guns securely to vehicles, plant, machinery & equipment of all kinds. Fits all standard 14 oz / 400 cc grease guns.



Air Operated Guns



BGG A500

Model No. BGG A500		
Price	£18.95	Category D
Operation	single shot – pulse action	
Weight	1.5 kg	



BGG A500C

Model No. BGG A500C		
Price	£26.95	Category D
Operation	continuous flow	
Additional info	360 degree revolving head	
Weight	1.6 kg	



BGG A500R

Model No. BGG A500R		
Price	£64.00	Category D
Operation	continuous flow	
Additional info	<ul style="list-style-type: none"> • 360 degree revolving head • heavy duty • additional 18" h.p. hose 	
Weight	2.2 kg	



Common Specification		
WP	90 psi	
Inlet operating pressure	30-150 psi	
Outlet operating pressure	1200 – 6000 psi (40:1 pressure ratio)	
Capacity	14 oz / 400 cc cartridge – 500 cc bulk fill	
Operation	air-op	
Additional info	<ul style="list-style-type: none"> • air release valve • filler valve for bulk fill pump 	



Model No. BGG A500W		
Price	£164.95	Category C
Operation	for grease up to NLGI 2#	
Min. inlet pressure	40 psi	
Max. outlet pressure	90 psi	
Outlet operating pressure	6000 psi	
Temperature range	0 – 120 deg F (-18 – 50 deg C)	
Air consumption	5.3 cfm	
Capacity	14 oz / 400 cc cartridge – 500 cc bulk fill	
Hose length mm	800	
Overall dimensions mm	500 x 270 x 75	
Additional info	<ul style="list-style-type: none"> • air release valve • filler valve for bulk fill pump 	
Weight	empty 3.2 kg / full 3.7	



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Carriage charges - page 85

Please refer to flap on inside back cover for material definitions & other technical terms

PRICE DROP

Electrically Operated Guns – 12v & 18v DC

**PRICE
DROP**

A range of heavy duty DC battery grease guns. Each comes with robust carrying case, 2 batteries & 230v AC charger. Charge time = 1 hour.

Model No.	BGGE10	
Price	£79.95	Category D
Voltage	12v DC	
WP	7000 psi	
Flowrate	60 g / minute	
Weight gun only (empty)	2.8 kg with battery	
Weight whole kit	6 kg gun empty	



Model No.	BGGE12	
Price	£99.95	Category D
Voltage	12v DC	
WP	8000 psi	
Flowrate	70 g / minute	
Weight gun only (empty)	3.3 kg with battery	
Weight whole kit	7.3 kg gun empty	



Model No.	BGGE18	
Price	£119.95	Category D
Voltage	18v DC	
WP	7000 psi	
Flowrate	75 g / minute	
Weight gun only (empty)	3.6 kg with battery	
Weight whole kit	8 kg gun empty	

Common Specification

Additional info battery capacity 1500 mAh

A super-powerful extra-heavy duty industrial grease gun for controlled and/or intensive use and where a high output of grease may be required. The gun has a variable speed trigger which at normal pressure can dispense a full 14oz cartridge in just 2.1/2" minutes. It has a double-piston operation (with electric brake) which allows up to 11 full cartridges to be dispensed with just one full charge of the battery.



Model No.	BGGE600	
Price	£199.95	Category C
Voltage	12v DC	
Operation	for grease up to NLGI 2#	
Outlet operating pressure	6000 psi	
Max. operating pressure	10000 psi	
Temperature range	0 – 120 deg F (-18 – 50 deg C)	
Capacity	14 oz / 400 cc cartridge ~ 500 cc bulk fill	
Hose length mm	800	
Overall case dimensions mm	520 x 430 x 140	
Additional info	<ul style="list-style-type: none"> air release valve filler valve for bulk fill pump integral shoulder strap 	
Weight gun only (empty)	3.1 kg with battery	
Weight whole kit	6.6 kg gun empty	
Note: one battery supplied. Secondary unit available as optional extra – see BGGE600B. 2nd battery will fit in case.		

Model No.	BGGE600B	
Price	£33.00	Category C
Description	12v DC replacement/spare battery only for BGGE600	



GREASE PUMPS & DISPENSERS

Manual Dispensers



Model No.	BGFP
Price	£28.95 Category D
Description	grease gun filler pump
Operation	for grease up to NLGI 2#
Capacity	fits 12.5 – 25 kg (25 – 50 lb) kegs
Additional info	<ul style="list-style-type: none"> • follower plate included • drum NOT included
Weight	3 kg



Model No.	BGT306
Price	£127.00 Category C
Capacity	22 litres
Fluid	all grades of grease
Output pressure	250 kg / cm
Delivery rate	3.2 g per stroke
Outlet hose	2 metre h.p. hose with h.p. grease nozzle handle
Additional info	<ul style="list-style-type: none"> • integral nozzle drip/storage holster • large 6" (150 mm) dia. filler hole • container has integral foot plate for stability
Weight	7.5 kg

Model No.	BGH125
Price	£49.95 Category C
Description	12.5 kg grease pump outfit – heavy duty
Hose connector	1.5 metre with nozzle & 4-jaw
WP	up to 10,000 psi
Additional info	<ul style="list-style-type: none"> • follower plate included • drum NOT included
Weight	4 kg

PRICE DROP



Model No.	BGT303
Price	£145.00 Category C
Description	<ul style="list-style-type: none"> • comprises container, pump, lid, 2 metres hose, h.p. grease nozzle handle • user's own grease keg (up to 15 kg) can be placed inside OR container can be filled directly up to 25 litres. (Note: follower plate fits 12.5 kg keg only) • outer container has integral foot plate for stability
Capacity	12.5 – 15 kg (20 / 25 litres)
Fluid	all grades of grease
Output pressure	250 kg / cm
Delivery rate	3.2 g per stroke
Additional info	<ul style="list-style-type: none"> • integral nozzle drip/storage holster • large 6" (150mm) dia. filler hole
Weight	8 kg

Air Pumps

Model No.	BGHA12P
Price	£250.00 Category C
Capacity	12.5 kg keg
Weight	7 kg

Model No.	BGHA80P
Price	£315.00 Category C
Capacity	80 kg keg
Weight	10 kg

Model No.	BGHA50P
Price	£295.00 Category C
Capacity	50 kg keg
Weight	9 kg

Pumps complete with hose & nozzle may be purchased separately, without lid & follower plate.



Air Operated Dispensers

Model No.	BGH101
Price	£349.95 Category C
Description	<ul style="list-style-type: none"> comprises container, air pump, lid, 2.5M h.p. hose, grease control nozzle, trolley user's own grease keg (up to 15 kg) can be placed inside OR container can be filled directly up to 25 litres. (Note: follower plate fits 12.5 kg keg only)
Capacity	12.5 - 15 kg (20 / 25 litres)
Fluid	all grades of grease
Pump ratio	40:1
Air inlet pressure	7 kg / cm
Output pressure	250 kg / cm
Delivery rate	300 g / min
Additional info	<ul style="list-style-type: none"> integral nozzle drip/storage holster large 6" (150 mm) dia. filler hole
Weight	13 kg



Please refer to flap on inside back cover for material definitions & other technical terms



BGHA12



BGHA50



BGHA80

A range of robust industrial grease outfits suitable for high pressure grease delivery. All come complete with keg lid, follower plate, 4 metre h.p. delivery hose and grease control nozzle. NOTE: drums NOT included.

Model No.	BGHA12
Price	£340.00 Category C
Capacity	12.5 kg keg
Weight	7.5 kg

Model No.	BGHA80
Price	£440.00 Category C
Capacity	180 kg keg
Weight	13 kg

Model No.	BGHA50
Price	£399.00 Category C
Capacity	50 kg keg
Weight	9.5 kg

Common Specification	
Pump Ratio	50 : 1
Operating pressure	4 - 7 bar
Delivery pressure	5000 psi / 345 bar
Delivery rate	0.85 litres / minute
Air inlet / hose outlet	1/4" / 1/4" BSPF



Pump Detail

Accessories



Grease control nozzle only c/w Z-swivel terminating in 1/4" BSPF (suits all BGHA pumps).

Model No.	BGHAN
Price	£39.00 Category C
Weight	1 kg

Air Grease Equipment Couplers

Code	Description	Price each	Category D
BGN40806	Air pressure regulator 1/4" x 1/4" BSPF	£24.00	
BGN10111	Straight swivel 1/4" bspf x 1/8" bspm	£10.00	
BGN10121	Z-swivel 1/4" bspf x 1/8" bspm	£16.00	
BGN14611	Short right-angle coupler	£7.00	
BGN14614	Right-angle needle point coupler	£7.00	
BGN14616	Button head coupler	£12.00	
BGN14622	Giant button head coupler	£14.00	



Grease Trolleys

Model No.	BGT1250
Price	£31.50 Category C
Capacity	fits both 12.5 kg & 50 kg kegs
Wheels	6" (150 mm) dia. - steel hub - rubber tyre
Weight	6 kg



Grease Dollies

Model No.	BGD12
Price	£12.95 Category C
Capacity	12.5 kg keg
Drum base dia. - Min.	250 mm
Max.	285 mm
Weight	2.4 kg

Model No.	BGD50
Price	£13.95 Category C
Capacity	50 kg keg
Drum base dia. - Min.	345 mm
Max.	360 mm
Weight	2.6 kg

Model No.	BGD80
Price	£21.95 Category C
Capacity	80 kg keg
Drum base dia. - Max.	580 mm
Weight	6 kg



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OIL DISPENSERS

Portable Oil Dispensers



Model No.	BOT206	
Price	£102.95	Category C
Capacity	22 litres	
Fluid	all grades of oil inc gear oil	
Max. delivery rate	40 cc per stroke	
Outlet hose	2 metre x 21 mm i/d with anti-drip nozzle	
Additional info	<ul style="list-style-type: none"> • integral nozzle drip / storage holster • large 6" (150 mm) dia. filler hole • container has integral foot plate for stability 	
Weight	6.7 kg	

Carriage charges - page 85



Model No.	6GR	
Price	£99.95	Category C
Capacity	17 litres	
Fluid	light to medium grades of oil	
Max. delivery rate	14 litres / minute	
Outlet hose	1.5 metre with bent tip nozzle 13 mm o/d	
Additional info	<ul style="list-style-type: none"> • integral nozzle drip / storage holster • filler hole with screw cap • standard colours available: red - green - blue - yellow - grey • height 800 mm 	
Weight	empty: 6.7 kg full: 18 kg approx.	



Model No.	BOT202	
Price	£89.95	Category C
Description	<ul style="list-style-type: none"> • comprises container, pump, lid, 2 metre hose, bent tip anti-drip nozzle • user's own oil drum (up to 20 litre) can be placed inside OR container can be filled directly up to 25 litres. (Note: lid NOT sealed). • outer container has integral foot plate for stability 	
Capacity	20 / 25 litres	
Fluid	all grades of oil inc gear oil	
Max. delivery rate	40 cc per stroke	
Additional info	<ul style="list-style-type: none"> • integral nozzle drip / storage holster • large 6" (150 mm) dia. filler hole 	
Weight	7.5 kg	

Trolley Outfits & Bowers



Model No.	5GTPT	
Price	£49.95	Category C
Description	<ul style="list-style-type: none"> • comprises 5G pump with 2M hose & bent tip shut-off nozzle - 2-wheel trolley • for user's own 25 litre oil drum 	
Fluid	all grades of oil	
Max. delivery rate	10 cc per stroke	
Additional info	<ul style="list-style-type: none"> • integral nozzle drip / storage holster • drum NOT included • drum can be supplied as an optional extra 	
Weight	without drum: 7 kg	

NOTE: these bowers can be modified & manufactured to suit customers' own requirements and specifications



Model No.	30M	
Price	£695.00	Category B
Capacity	135 litres / 30 gallons	
Weight	42 kg	
Model No.	50M	
Price	£765.00	Category B
Capacity	225 litres / 50 gallons	
Weight	70 kg	

Common Specification	
Fluid	all grades of oil inc gear oil
Max. delivery rate	27 litres / minute via RP90 pump
Outlet hose	2 metre x 1" bent tip nozzle
Additional info	<ul style="list-style-type: none"> • integral nozzle drip/storage holster • filler hole with screw cap • integral dipstick • drain plug
Wheels / castors	11" (280 mm) dia. rubber tyre front wheels - 4" (103 mm) dia. heavy duty rear castors

Model No.	MTU2	
Price	£975.00	Category B
Capacity	2 x 100 litre tanks	
Weight	105 kg	
Model No.	MTU3	
Price	£1075.00	Category B
Capacity	2 x 50 & 1 x 100 litre tanks	
Weight	115 kg	
Model No.	MTU4	
Price	£1250.00	Category B
Capacity	4 x 50 litre tanks	
Weight	125 kg	

Common Specification	
Fluid	all grades of oil inc gear oil
Max. delivery rate	27 litres / minute via RP90 pumps
Outlet hose	2 metre x 1" bent tip nozzle
Additional info	<ul style="list-style-type: none"> • integral nozzle drip / storage holster • filler hole with screw cap • integral dipstick • drain plug
Wheels / castors	11" (280 mm) dia. rubber tyre front wheels - 4" (103 mm) dia. heavy duty rear castors



NOTE: MTU's can be modified & manufactured to suit customers' own requirements and specifications

OIL & FLUID RECOVERY

Suction Guns & Syringes

Mild steel plunger type oil suction guns for removing and replacing small quantities of new and waste oil.



Model No.	Diameter	Body length	Capacity	Category	Price
SG02	30mm	250mm	200mls	Category C	£5.50
SG05	55mm	350mm	0.5litre	Category C	£7.95
SG10	55mm	430mm	1.0 litre	Category C	£9.95

Oil & Fluid Extractors

Mobile oil and fluid extractors eliminate the need to get under vehicles or machinery to drain the oil from engines, sumps, gearboxes, etc. These devices extract waste oils & fluids simply from dip stick openings, filler cap openings and other apertures. Suitable for use on vehicles, marine engines, plant & industrial machinery, they can be used to extract waste oils, cutting fluids and low viscosity fluids such as water. Made mainly from nylon, each device comes c/w 3 x suction probes.



Model No.	OE40	
Price	£49.95	Category B
Capacity litres	4	
Dimensions mm	495 h x 205 dia.	
Weight	2.6 kg	
Model No.	OE65	
Price	£54.95	Category B
Capacity litres	6.5	
Dimensions mm	650 h x 205 dia.	
Weight	3 kg	
Model No.	OE105	
Price	£98.95	Category B
Capacity litres	10.5	
Dimensions mm	585 h x 255 dia.	
Weight	3.3 kg	

Common Specification

Suction probes dia. x length mm	
	• 5.8 x 850
	• 6.7 x 850
	• 9.8 x 100

NEW RANGE

Plastic suction gun with suction and discharge capacity of 350ml.

Model No. SGP035

Price £24.95 **Category C**

Capacity 350 ml

Features

- 2 x suction tubes supplied : 9.8mm od x 300mm long + 11mm od x 300mm long
- adjustable flow control
- graduated scale
- tube anti-drip plug

Dimensions 380 x 75 dia.

Weight 650 g

NEW RANGE



Fluid suction and discharge guns used to fill and extract lubricants & other fluids from vehicles & engines. The syringe body holds 350ml & the pot can hold an additional 1 litre. The pot can also be removed and the syringe can be used as a pump to discharge or extract fluid from a larger container.

Features: 2 x suction tubes supplied ~13mm od x 370mm long +15mm od x 150mm long ~ graduated scale ~ tube anti-drip plug

Model No.	SGP135D	Model No.	SGP135S
Price	£31.95	Price	£31.95
Action	discharge only	Action	suction only
	Category C		Category C



Common Specification

Syringe capacity	350 ml
Pot capacity	1.0 litre
Fluid	non-corrosive lubricants
Dimensions mm	380 x 225 x 100
Weight	900 g

Absorbents - See page 18

Heavy duty hi-viz plastic pressure suction devices for sucking out oil from sumps, engines of cars, lawnmowers, chain saws, motorbikes, scooters, personal watercrafts, motorboats, etc. Operates by manual pre-pressurization. Extra suction probe included. (Not shown.)



Model No.	5PVA	Category B
Price	£36.95	
Capacity litres	5	
Dimensions cm	68 H x 23 dia.	
Weight empty	2 kg	

Model No.	5PVP	Category B
Price	£39.95	
Capacity litres	11	
Dimensions cm	84 H x 22 dia.	
Weight empty	2.3 kg	



Gravity Oil Drainers & Drain Pans



Mobile heavy duty low level waste oil drain pans made from mild steel powder coated.

Model No.	D04	Category B
Price	£149.95	
Capacity litres	60 litres	
Dimensions cm	15 H x 63 W x 112 L	
Weight empty	28 kg	

Model No.	D05	
Price	£189.95	
Capacity litres	115 litres	
Dimensions cm	23 H x 63 W x 112 L	
Weight empty	33 kg	

Common Specification

- jointed towing handle
- drain tap
- mesh cover
- 2 fixed wheels & two castors



Mobile plastic waste oil drainers c/w telescopic drain bowls

Model No.	D01	Category B
Price	£69.00	
Additional info	RP90 discharge pump included	
Weight empty	13 kg	

Model No.	D02	Category B
Price	£54.95	
Weight empty	8 kg	
Capacity litres	80	
Telescopic reach mm	1410 - 1760	
Drain bowl	400 mm dia. c/w strainer	
Additional info	• two carrying handles • brass drain cock	

Model No.	D03	Category B
Price	£49.95	
Capacity litres	35	
Telescopic reach mm	950 - 1650	
Weight empty	6 kg	



Steel Drip Trays

A range of heavy duty powder-coated steel drip trays.

Model No.	Description	Dimensions mm			Capacity Litres	Weight kg	Price
		L	W	D			
DP10	Heavy duty powder coated	1000	1000	125	60	17	£135.00
DP10C	H/duty powder coat with castors	1000	1000	125	60	20	£185.00

FUEL RECOVERY

Carriage charges - page 85

Fuel Tank Drainers



Model No.	Capacity litres	Pump flow rate litres/min	Height mm	Length mm	Width mm	Weight empty kg	Price
VOFR	50	50	1270	540	475	28	£485.00
GFR	80	50	1340	550	640	39	£575.00
MFR	130	50	1160	840	630	45	£760.00
MFR2	2 x 130	50	1310	1200	670	100	£1285.00
MFR3	3 x 100	50	1310	1260	670	120	£1695.00
VOFRPUMP	Replacement pump assembly only for Baelz fuel retriever						£240.00

Category C

VOFR - GFR - MFR - MFR2 - MFR3

The range of Mobile Fuel Retrievers is designed to facilitate the draining of vehicle fuel tanks in accordance with the Health & Safety at Work Act as laid down by the factory inspectorate for the safe transfer of fuel.

These units allow one person to empty vehicle fuel tanks, (or other types of container), of all their contents without the fuel ever being exposed to the atmosphere. Leaded or unleaded petrol, and diesel, can be removed and replaced quickly, easily - and above all, safely. All models consist of a high output reversible rotary pump (model LP32R) with a 2.5 metre suction /delivery hose mounted on a robust, highly manoeuvrable steel tank with wheels and castors. All incorporate the following features: finished in safety red ~ safety warning labels ~ lockable shut-off valve ~ anti-flash protection in hose & pump ~ non-spark wheels & castors ~ castor with brake ~ earthing leads ~ vapour transfer tube ~ contents sightgauge ~ 80 mesh strainers at pump inlet & outlet.

Operating Procedure

- Place unit as close as possible to the vehicle being drained
- Attach one of the crocodile clips to the vehicle and the other to a convenient earth.
- Ensure the shut-off valve on top of the pump is open
- Insert the pump hose into the vehicle filler neck as far as possible
- Rotate the pump quickly in an anti-clockwise direction until you see the fluid fill the hose, then turn at normal speed until all the fluid from the vehicle has been drained into the container
- When draining is complete;
 - i) remove hose carefully from the vehicle
 - ii) tilt the end of the hose upwards and rotate the pump handle several times to empty remaining fuel from the hose
 - iii) place the hose on its retainer
 - iv) remove the crocodile clips
 - v) close the shut-off valve
- Move the unit to a safe storage area until required again
- When refilling the vehicle, repeat the above procedure but rotate the pump handle in the opposite direction (clockwise)
- When the unit is not in use ensure the shut-off valve is put into the correct position. Unauthorised emptying of the container is prevented by inserting a padlock through the valve lever and the chain attached to the pump



Note: MFR2 is a twin tank unit for unleaded and LRP/leaded or diesel fuel; MFR3 is a triple tank unit for unleaded, LRP/leaded and diesel; both models allow the fuels to be handled simultaneously without fear of cross contamination.

MFR2



MADE TO ORDER*



MFR3

*Contact us for delivery period.

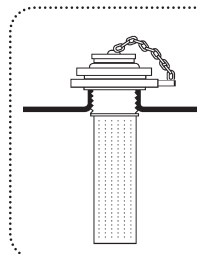
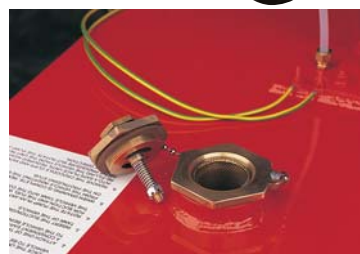
Accessories



Model No. FMAK

Price £142.00 Category C

An adaptor kit to overcome the problem of the anti-siphon devices found in the vehicle fuel filler pipes. It can be used on a wide range of cars and commercial vehicles. Contact our sales office for full details.



Model No. MFR-FCA

Price £275.00 Category B

A brass filler cap and vent assembly with built-in flame arrester that can be added to the GFR, MFR, MFR2 and MFR3 to allow safe, direct filling from a refuelling pump.

SPILL CONTROL

Drum Sumps



Heavy duty drum sumps made from mild steel powder coated with galvanised mesh cover. All models have a minimum capacity of 210 litres.

Model No. BSP1

Price £260.00 Category B

Dimensions cm 39 H x 96 W x 96 L



Model No. BSP2

Price £300.00 Category B

Dimensions m 35 H x 83 W x 125 L



Model No. BSP3

Price £345.00 Category B

Dimensions cm 31 H x 86 W x 196 L



Model No. BSP4

Price £390.00 Category B

Dimensions cm 25 H x 133 W x 133 L

NOTE:

Very heavy items. Please contact us for carriage charges.

NEW RANGE

SPILL CONTROL

Drip Trays & Drain Pans



Round Drip Trays/Drain Pans

Model No.	BDTE	
Price	£5.95	Category E
Material	galvanised steel	
Capacity	8 litres	
Dimensions	15" / 390 mm dia. x 4" / 100 mm deep	
Weight	700 g	

Model No.	BDP	
Price	£1.95	Category E
Material	plastic	
Capacity	5 litres	
Dimensions	13" / 330 mm dia. x 3 1/2" / 95 mm deep	
Weight	200 g	



BDP

**PRICE
DROP**



Plastic Drain Pans

Model No.	BDP05	
Price	£8.50	Category C
Capacity	5 litres	
Dimensions	15" / 380 mm dia. x 5" / 120 mm deep	
Weight	800 g	

Model No.	BDP10	
Price	£8.95	Category C
Capacity	10 litres	
Dimensions	18" / 440 mm dia. x 7" / 170 mm deep	
Weight	1.2 kg	
Additional Info	<ul style="list-style-type: none"> • 2 x carrying handles • pouring spout 	



Plastic Drain Pan - Sealable

Model No.	BDPS15	
Price	£9.95	Category C
Capacity	15 litres	
Dimensions	440 x 400 x 150 mm	
Weight	1.2 kg	
Additional Info	<ul style="list-style-type: none"> • 175 mm aperture c/w screw cap • integral mesh cover • 2 x carrying handles • 25 mm pouring spout with cap • can be fully sealed & transported whilst full • moulded to allow multi-stacking 	



BDTGU



Steel Drip Trays

A range of heavy duty 0.6mm thick galvanized steel drip trays and spill containment pans. All models have leakproof folded corners and reinforced beaded rims which double as handles.

Category C

Model No.	Description	Dimensions mm			Capacity Litres	Weight kg	Price
		L	W	D			
BDTG	Galvanised with rim	540	345	55	5	1.7	£12.25
BDTGM	Galvanised with rim & mesh cover	540	345	55	5	2.5	£18.10
BDTGL	Galvanised with rim	650	540	55	8	2.7	£15.10
BDTGLM	Galvanised with rim & mesh cover	650	540	55	8	4.1	£25.25
BDTGU	Deep galvanised with rim	555	365	75	10	2.4	£14.95
BDTZS	Heavy duty 0.7mm galvanised	760	600	50	10	3.5	£18.95
BDTZM	Heavy duty 0.7mm galvanised	915	600	50	20	4.0	£23.95
BDTZL	Heavy duty 0.7mm galvanised	1220	760	50	30	6.0	£34.95



BDTG
BDTGL



BDTGM
BDTGLM



BDTZS/M/L



Absorbents - See page 18

Drum taps - See page 44



DP10



DP10C



DP10C

Heavy Duty Large Steel Drip Trays

A range of heavy duty powder-coated steel drip trays.

Category C

Model No.	Description	Dimensions mm			Capacity Litres	Weight kg	Price
		L	W	D			
DP10	Heavy duty powder coated	1000	1000	125	60	17	£135.00
DP10C	H/duty powder coated with castors	1000	1000	125	60	20	£185.00

Carriage charges - page 85

Drip Trays & Drain Pans - Plastic



PDT05340

PDT05340L

PDT004131



PDT06060



PDT12055

PDT12040

Plastic Drip Trays

A range of heavy duty polypropylene drip trays and spill containment pans. Ideal for placing under leaks & drips, barrel taps, plant & machinery, vessels, drums, cans, etc. Lightweight, yet strong and durable the shallow trays are also ideal for placing on bench tops, tables, desks, shelves, cabinets etc., wherever fluids are used and/or stored.

Category C

Model No.	Description	Dimensions cm			Capacity Litres	Weight kg	Price
		L	W	D			
PDT04131	Handy tray	41	31	4.5	5	0.5	£4.95
PDT05340	Deep tray	53	40	9.5	16	0.8	£8.95
PDT05340L	Pouring tray + lip	53	40	9.5	16	0.8	£8.95
PDT05640	Standard tray	56	40	4	9	0.9	£6.95
PDT06060	Square tray	60	60	7	25	1.4	£9.95
PDT06550	Chieftain tray	65	50	12	28	1.4	£11.95
PDT07940	Maxi tray	79	40	4	12	1.1	£9.95
PDT07940X	Two tier tray	2 x 79	40	4	11	2.7	£26.95
PDT10055	Titan tray	100	55	15	65	2.1	£20.50
PDT12040	Jumbo tray	117	40	4	18	1.7	£12.95
PDT12055	Giant plus tray	120	55	4	28	2.4	£19.95
PDTMS	Metre square tray	100	100	12	100	4.0	£38.40



PDT10055



PDT07940



PDT07940X



PDTMS



PDT05640

SPILL CONTROL

Absorbents & Spill Kits

Drip trays - See pages 16-17



Granules

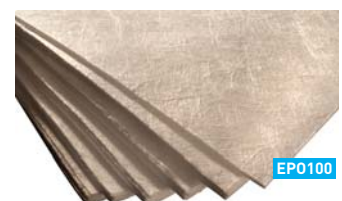
Model No.	Description	Volume litres	Bag sorbency litres	Weight kg	Bags per Pallet	Category C Price
EG10CE	Cellulose - non-flammable	30	10	9	72	£6.95
EG18CL	Clay - wind-proof	30	9	18	50	£6.95



Maintenance Range - Socks, Pads, Wipes & Spill Kits

A range of pads, socks, wipes and spill kits for general maintenance absorbency and spill control.

Model No.	Description	Dimensions		Pack size	Pack sorbency litres	Weight kg	Price
		cm	metre				
ESM20	Socks	8 dia.	1.2	20	100	8.5	£65.00
EPM100	Pads	50 x 40	--	100	80	6	£63.00
ERM3240	Wipes	11 x 40	40	300	48	3.5	£57.50
EKM035	Spill kit	26 x 30 x 40 cm	--	--	35	5	£67.50
1 x bag containing: 15 x pads, 2 x socks, 1 pr gloves, 1 x goggles, 1 x disposal bag, 1 x instructions							
EKM120	Spill kit	48 x 56 x 94 cm	--	--	120	24	£198.00
1 x wheelie bin containing: 60 x pads, 6 x socks, 2 x pillows, 1 x caution tape, 1 pr gloves, 1 x goggles, 4 x disposal bags, 1 x instructions							



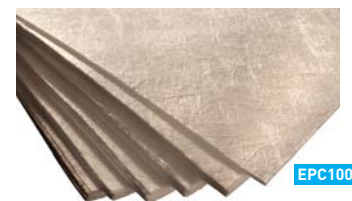
Oil Only Range - Socks, Pads & Spill Kits

A range of pads, socks and spill kits for oil only absorbency and spill control.

Model No.	Description	Dimensions		Pack size	Pack sorbency litres	Weight kg	Price
		cm	metre				
ES020	Socks	8 dia.	1.2	20	80	8.5	£74.50
EPO100	Pads	50 x 40	--	100	85	5.6	£58.50
EKO035	Spill kit	26 x 30 x 40 cm	--	--	35	5	£82.50
1 x bag containing: 15 x pads, 2 x socks, 1 pr gloves, 1 x goggles, 1 x disposal bag, 1 x instructions							
EKO120	Spill kit	48 x 56 x 94 cm	--	--	120	24	£235.50
1 x wheelie bin containing: 60 x pads, 6 x socks, 2 x pillows, 1 x caution tape, 1 pr gloves, 1 x goggles, 4 x disposal bags, 1 x instructions							



Spill kits



Chemical Range - Socks, Pads & Spill Kits

A range of pads, socks and spill kits for chemical absorbency and spill control.

Model No.	Description	Dimensions		Pack size	Pack sorbency litres	Weight kg	Price
		cm	metre				
ESC20	Socks	8 dia.	1.2	20	80	8.5	£112.50
EPC100	Pads	42 x 50	--	100	100	7.5	£132.00
EKC035	Spill kit	26 x 30 x 40 cm	--	--	35	5	£105.00
1 x bag containing: 15 x pads, 2 x socks, 1 pr gloves, 1 x goggles, 1 x disposal bag, 1 x instructions							
EKC120	Spill kit	48 x 56 x 94 cm	--	--	120	24	£295.00
1 x wheelie bin containing: 60 x pads, 6 x socks, 2 x pillows, 1 x caution tape, 1 pr gloves, 1 x goggles, 4 x disposal bags, 1 x instructions							



MANUALLY OPERATED PUMPS

Lift Pumps

210 litre Pumps

Sump Pumps



A range of hand sump pumps for pumping used oil from the sumps of motors and engines.

Model No. SPKA
Price £32.95 **Category C**

Wetted parts alu alloy - brass - NBR
Inlet M16 x 1.5
Weight 400 g

Model No. SPKZ
Price £39.95 **Category C**

Wetted parts alu alloy - brass - NBR
Inlet M16 x 1.5
Weight 450 g

Model No. SPKC
Price £57.95 **Category C**

Wetted parts brass - NBR
Inlet 1/4" BSP
Weight 700 g

Common Specification

Fluid oils - waste oil - all petroleum products - water - seawater
Flowrate 5 litres/minute
Dimensions mm 250 x 30 dia.
Outlet 10 mm
Additional Info • lift action



Model No. KP100
Price £29.95 **Category C**

Fluid light oils - light solvents - alcohols - light acids - petrol - toluene - liquid foodstuffs - drinking water

Wetted parts HDPE - PP - alu - Viton

Model No. KP101
Price £20.95 **Category C**

Fluid light oils - water-based solutions - non-corrosive chemicals - petrol - diesel - kerosene - seawater - degreasers

Wetted parts HDPE - UPVC - plated steel - PP - PVC

Common Specification

Flowrate 1 litre per up-stroke - 50 litres / minute
Outlet 45 mm o/d
Hose length mm 1000
Additional info • will fit all steel drums
• will fit plastic drums with an aperture size of 55mm minimum

Weight 750 g



Insulated Anti-Static Grounding Wires

Static electricity may be generated by the operation of hand pumps - particularly rotary pumps. In order to prevent sparking caused by static build-up, when pumping flammable liquids a bonding wire must be used. i.e. the container must be grounded to earth by means of a conductive earthing lead fastened between the container and a suitable grounded earth point.



Model No. SS3
Price £85.95 **Category C**

Fluid aggressive chemicals - solvents - some acids / alkalis - de-greasers - adblue

Wetted parts 304SS - Teflon

Model No. SS316
Price £98.00 **Category C**

Fluid aggressive chemicals - solvents - acids / alkalis - de-greasers - adblue

Wetted parts 316SS - Teflon

Common Specification

Flowrate 0.5 litre / stroke - 40 litres / minute
Outlet 19 mm o/d
Fitting 2" BSP barrel adaptor
Riser tube rigid to suit 210 litre drum
Weight 2 kg



Fluid Compatibility Chart page 87

Lift Pumps

25 litre Pumps

A new range of versatile plastic pumps for 20 & 25 litre steel or plastic drums. Will handle a wide variety of liquids including oils, chemicals and solvents.

25 Litre Pumps



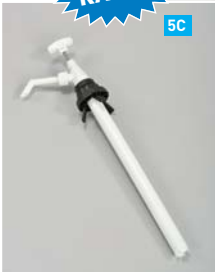
5B

Model No.	5B
Price	£12.95 Category E
Fluid	light to medium oils - kerosene - diesel - mild chemicals - some solvents
Wetted parts	PVC - nylon
Viscosity	200 cSt / SAE30/40
Flowrate	0.1 litre / stroke
Fitting	universal clamp adaptor fits all drum apertures
Riser tube	<ul style="list-style-type: none"> rigid to suit 20/25 litre drums removable flexi extension can also be cut to length to suit different heights of drums
Weight	400 g



5B

NEW RANGE



5C

Fluid Compatibility Chart page 87

Model No.	5C
Price	£22.95 Category E
Fluid	light to medium oils - kerosene - diesel - petrol - stronger chemicals - solvents
Wetted parts	nylon - viton - SS
Viscosity	200 cSt / SAE30/40
Flowrate	0.1 litre / stroke
Fitting	universal clamp adaptor fits all drum apertures
Riser tube	rigid to suit 20/25 litre drums
Weight	400 g



5C



Model No.	5G
Price	£19.95 Category B
Fluid	all oils - all fuels
Wetted parts	PP
Viscosity	1100 cSt / SAE50+
Flowrate	0.1 litre / stroke
Hose length mm	1500
Fitting	2" BSP adaptor - plysu adaptor
Riser tube	rigid to suit 25 litre drum
Additional info	shut-off tap with bent tip nozzle



25LP/25LPS



Model No.	25LP
Price	£19.95 Category B
Fluid	light oils - non-corrosive solvents
Wetted parts	PE - plated steel
Model No.	25LPS
Price	£69.95 Category B
Fluid	aggressive chemicals - solvents - acids/alkalis - de-greasers - adblue
Wetted parts	316SS - Teflon

Common Specification	
Flowrate	0.2 litre / stroke
Viscosity	1100 cSt / SAE50+
Outlet	12 mm o/d
Fitting	2" BSP barrel adaptor
Riser tube	rigid to suit 25 litre drum
Weight	1.1 kg



A2161



Model No.	A2161
Price	£19.95 Category C
Colour	black / red
Fluid	oils - water - diesel - kerosene - antifreeze - mild chemicals & solvents
Wetted parts	PP - NBR

Model No.	A2164
Price	£35.00 Category C
Colour	black / orange
Fluid	oils - water - petrol - diesel - kerosene - antifreeze - chemicals & solvents
Wetted parts	PP - viton

Common Specification	
Flowrate max.	250ml/stroke - 14 litres/minute
Viscosity	200 cSt / SAE30/40
Outlet	<ul style="list-style-type: none"> outlet spout 80mm long 20mm (3/4") hose fitting (hose not supplied)
Drum Fitting	2" BSP / 59mm trisure barrel adaptor
Weight	650 g



A2164



Jerry Can Pumps

**PRICE
DROP**



Jerry cans - See page 52



Model No.	KP102J	
Price	£6.95	Category D
Fluid	potable water ~ chlorine ~ paints ~ thinners ~ degreasers ~ petrol ~ diesel ~ kerosene ~ light oils ~ chemicals ~ solvents	
Wetted parts	PP - PE - ABS	
Flowrate	0.24 litres / stroke (manual) 10 litres / minute approx. (siphon)	
Hose length mm	660	
Riser tube	rigid to suit containers up to 700 mm deep	
Fitting	taper press-cap 35 to 55 mm	
Additional info	supplied with additional alternative rigid spout	
Weight	150 g	



Model No.	POLA	
Price	£43.00	Category A
Fluid	petrol ~ diesel ~ kerosene ~ light oils ~ water	
Flowrate	1.75 litres / minute approx. (siphon)	
Hose length mm	780	
Additional info	<ul style="list-style-type: none"> • rapid fluid transfer • air bleed flow regulator • empties a 20 litre jerry can in 35 seconds 	
Weight	600 g	

**Fluid
Compatibility
Chart
page 87**

Please refer to flap on inside back cover for material definitions & other technical terms

Water / Bilge Pumps



Model No.	KP110	
Price	£16.95	Category C
Barrel/hose length	700 mm	
Flowrate max.	0.7 litres/stroke ~ 35 litres/minute	
Weight	650 g	

Model No.	KP109	
Price	£18.95	Category C
Barrel/hose length	900 mm	
Flowrate max.	0.9 litres/stroke ~ 45 litres/minute	
Weight	800 g	

Common Specification		
Fluid	water ~ seawater ~ contaminated/dirty water ~ diesel ~ kerosene	
Wetted parts	alu ~ HDPE ~ PVC ~ PP ~ plated steel	
Suction lift / discharge head	1 metre / 0.5 metre	



Model No.	LPEB35	
Price	£19.95	Category C
Dimensions mm	795 x 50 x 190	
Barrel length	483 mm	
Weight	320 g	

Model No.	LPEB55	
Price	£22.50	Category C
Dimensions mm	995 x 50 x 190	
Barrel length	685 mm	
Weight	400 g	

Common Specification		
Fluid	water ~ seawater ~ contaminated/dirty water ~ diesel ~ kerosene	
Flowrate max.	30 litres/minute	
Hose connections	25mm (1") outlet	
Wetted parts	ABS ~ HDPE ~ PVC ~ SS ~ PP ~ neoprene	
Suction lift / discharge head	1 metre / 0.5 metre	



PUMPS

MANUALLY OPERATED PUMPS

Diaphragm Pumps

A range of self-priming, lightweight yet extremely robust diaphragm pumps for general industry, construction, agriculture, maintenance and marine applications. These pumps are easy to move and carry but will transfer fluids at a very high output. They are simple to dismantle and service, with service kits available from stock. Please contact our sales office for extras such as hoses, diaphragms of different materials, service kits, brackets and spares.



Model No.	DPFP1	Category C
Price	£24.95	
Fluid	water - seawater - all oils - mild solvents - non-corrosive chemicals	
Flowrate	0.45 litre/stroke - 36 litres/minute	
Wetted parts	PP - EPDM - SS	
Viscosity	200 cSt / SAE30/40	
Fitting	1" inlet & outlet	
Dimensions	270 x 140 x 220 mm	
Weight	1.2 kg	
Additional Info	<ul style="list-style-type: none"> • single diaphragm • foot-operated • hoses available as optional extra 	



Model No.	DPFB	Category C
Name	BABYFOOT	
Price	£25.90	
Fluid	water - seawater - mild solvents - contaminated/dirty water	
Flowrate	8 litres/minute	
Suction lift / discharge head	1.5 metres / 3 metres	
Wetted parts	nylon - acetal - neoprene	
Viscosity	10 cSt	
Fitting	13mm inlet & outlet	
Dimensions	130 x 80 x 100 mm	
Additional Info	<ul style="list-style-type: none"> • single diaphragm • foot-operated • hoses available as optional extra 	
Weight	300 g	



Model No.	DPP01A	Category C
Price	£39.00	
Flowrate	0.3 litre/stroke	
Fitting	1" straight inlet & outlet	
Model No.	DPP02A	Category C
Price	£39.00	
Flowrate	0.36 litre/stroke	
Fitting	1.1/2" straight inlet & outlet	
Common Specification		
Fluid	water - seawater - contaminated water - diesel - kerosene	
Wetted parts	POM - SS302 - NBR	
Viscosity	40 cSt	
Weight	800 g	
Additional Info	single diaphragm	



Model No.	DPND9010	Category C
Name	GUSHER URCHIN	
Price	£46.15	
External materials	diaphragm clamp ring & handle made from acetal co-polymer	
Weight	600 g	

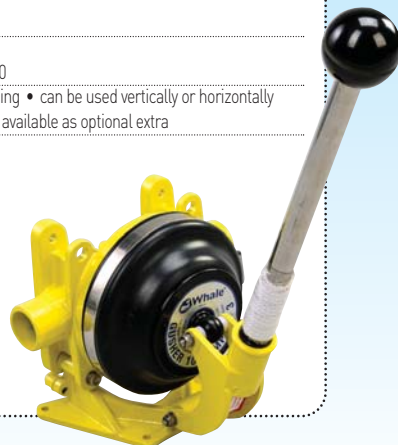
Model No.	DPND9210	Category C
Price	£76.45	
External materials	diaphragm clamp ring & handle made from aluminium	
Weight	1 kg	
Common Specification		
Fluid	water - seawater - contaminated/dirty water - light oils - diesel - kerosene	
Flowrate max.	1.1 litre/stroke - 66 litres/minute	
Hose connections	25 & 38mm inlet & outlet	
Wetted parts	acetal - copolymer - SS - PP - NBR	
Viscosity	40 cSt	
Mounting dimensions	6 mm dia. holes - 107.4 mm between centres	
Suction lift / discharge head	4 metres / 3 metres	
Additional Info	<ul style="list-style-type: none"> • single diaphragm • can be used vertically or horizontally • lightweight & robust • hoses available as optional extra 	



Model No.	DPND4418	Category C
Name	GUSHER TITAN	
Price	£73.15	
Fluid	water - seawater - contaminated/dirty water - light oils - diesel - kerosene	
Flowrate	1.75 litre/stroke - 105 litres/minute	
Mounting dimensions	7 mm dia. holes - 187 mm between centres	
Hose connections	38mm inlet & outlet	
Wetted parts	acetal - copolymer - SS - PP - NBR - neoprene - bronze	
Viscosity	40 cSt	
Suction lift / discharge head	4 metres / 4 metres	
Additional Info	<ul style="list-style-type: none"> • single diaphragm • can be used vertically or horizontally • lightweight & robust • hoses available as optional extra 	
Weight	1.5 kg	

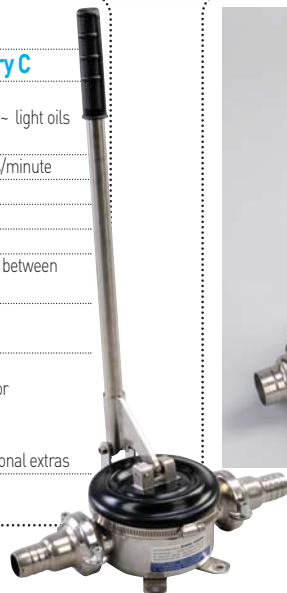


Model No.	DPND3756
Name	GUSHER 10
Price	£238.50 Category C
Fluid	water ~ seawater ~ light oils ~ diesel ~ kerosene ~ contaminated/dirty water
Flowrate	1.1 litre/stroke ~ 65 litres/minute
Hose connections	38mm inlet & outlet
Wetted parts	LM6 diecast alu alloy epoxy coated ~ neoprene ~ nitrile ~ SS
Viscosity	40 cSt
Suction lift / discharge head	4 metres / 4 metres
Overall dimensions mm	436 high (with handle) x 203 x 250
Additional Info	<ul style="list-style-type: none"> • single diaphragm • self-priming • can be used vertically or horizontally • lightweight & robust • hoses available as optional extra
Weight	2.3 kg



Model No.	DPLA
Price	£215.00 Category C
Fluid	water ~ seawater ~ contaminated/dirty water ~ light oils ~ diesel ~ kerosene
Flowrate max.	0.85 litre/stroke ~ 50 litres/minute
Hose connections	1.1/2" BSP inlet & outlet
Wetted parts	CI - NBR
Viscosity	40 cSt
Mounting dimensions	10mm dia. holes ~ 225mm between centres
Suction lift / discharge head	4 metres / 15 metres
Additional Info	<ul style="list-style-type: none"> • single diaphragm • can be used vertically or horizontally • self-priming • hose tails & hoses available as optional extras
Weight	16 kg

Model No.	DPBARJ
Price	£297.50 Category C
Fluid	water ~ seawater ~ contaminated/dirty water ~ light oils ~ diesel ~ kerosene
Flowrate max.	0.65 litre/stroke ~ 40 litres/minute
Hose connections	30-40mm inlet & outlet
Viscosity	40 cSt
Wetted parts	304SS - NBR
Mounting dimensions	7mm dia. holes ~ 153mm between centres
Suction lift / discharge head	4 metres / 4 metres
Additional Info	<ul style="list-style-type: none"> • single diaphragm • can be used vertically or horizontally • self-priming • hoses available as optional extras
Weight	4 kg



Model No.	DPBARM
Price	£249.50 Category C
Fluid	water ~ seawater ~ contaminated/dirty water ~ light oils ~ diesel ~ kerosene
Flowrate max.	0.65 litre/stroke ~ 40 litres/minute
Hose connections	30mm inlet & outlet
Wetted parts	304SS - NBR
Viscosity	40 cSt
Mounting dimensions	7mm dia. holes ~ 125mm between centres
Suction lift / discharge head	4 metres / 4 metres
Additional Info	<ul style="list-style-type: none"> • single diaphragm • can be used vertically or horizontally • self-priming • hose tails & hoses available as optional extras
Weight	2 kg

Model No.	DPBE45
Price	£175.00 Category C
Wetted parts	alu - NBR
Fluid	water ~ light/medium oils ~ diesel ~ kerosene

Model No.	DPBE45C
Price	£260.00 Category C
Wetted parts	alu - viton ~ PVC
Fluid	water ~ solvents ~ chemicals ~ diesel ~ kerosene

Common Specification

Viscosity	40 cSt
Fitting	2" BSP barrel adaptor
Riser tube	2-piece sectional
Flowrate max.	0.75 litre/stroke ~ 45 litres/minute
Hose connection	1" / 25mm outlet
Discharge head	4.5 metres
Additional Info	<ul style="list-style-type: none"> • single diaphragm • supplied with 2 metres hose • extra hose available as optional extra • lightweight & robust
Weight	2.5 kg



Please refer to flap on inside back cover for material definitions & other technical terms

Model No.	DP120B
Price	£370.00 Category C
Overall dimensions mm	295 x 560 x 330
Fluid	water ~ seawater ~ contaminated/dirty water ~ light oils ~ diesel ~ kerosene
Flowrate	2.25 litre/stroke ~ 136 litres/minute
Hose connections	38mm inlet & outlet
Wetted parts	alu ~ SS - NBR
Viscosity	40 cSt
Suction lift / discharge head	6 metres / 6 metres
Additional Info	<ul style="list-style-type: none"> • double diaphragm • lightweight & robust • hoses available as optional extra
Weight	6.5 kg



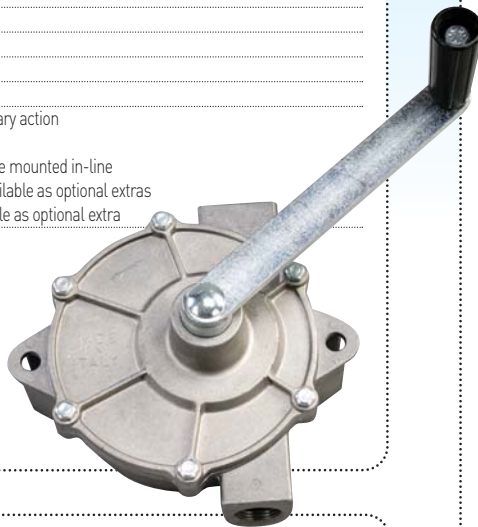
Fluid Compatibility Chart page 87

Insulated Anti-Static Grounding Wires

Static electricity may be generated by the operation of hand pumps – particularly rotary pumps. In order to prevent sparking caused by static build-up, when pumping flammable liquids a bonding wire must be used. i.e. the container must be grounded to earth by means of a conductive earthing lead fastened between the container and a suitable grounded earth point.

BEST QUALITY

Model No.	RPP1	Category C
Price	£119.95	
Fluid	all petroleum products – mild chemicals & solvents	
Wetted parts	alu - NBR	
Viscosity	150 cSt / SAE20	
Inlet/Outlet	3/4" / 1" BSP	
Flowrate	35 litres/minute	
Mounting size	168mm	
Discharge head	4 metres	
Additional Info	<ul style="list-style-type: none"> • reversible rotary action • self-priming • designed to be mounted in-line • hose tails available as optional extras • hoses available as optional extra 	
Weight	2 kg	



Model No.	RPV0	Category C
Price	£160.00	
Inlet/Outlet	1/2" BSP	
Flowrate	24 litres/minute	
Mounting size	118mm	
Weight	3 kg	



Model No.	RPV1	Category C
Price	£175.00	
Inlet/Outlet	3/4" BSP	
Flowrate	35 litres/minute	
Mounting size	123mm	
Weight	3.5 kg	

Model No.	RPV2	Category C
Price	£222.00	
Inlet/Outlet	1" BSP	
Flowrate	46 litres/minute	
Mounting size	155mm	
Weight	4.5 kg	

Model No.	RPV2A	Category C
Price	£193.00	
Wetted parts	Cl - alu - NBR	
Inlet/Outlet	1" BSP	
Flowrate	46 litres/minute	
Mounting size	155mm	
Weight	4.5 kg	

Common Specification

Viscosity	150 cSt / SAE20
Fluid	all petroleum products – water
Wetted parts	Cl - bronze - NBR (RPV0/1/2)
Discharge head	5 metres
Additional Info	<ul style="list-style-type: none"> • reversible rotary action • self-priming • designed to be mounted in-line • hose tails available as optional extras • hoses available as optional extra

Model No.	RPV2S	Category B
Price	£1199.00	
Fluid	all petroleum products – chemicals – solvents	
Wetted parts	SS316 - PTFE	
Viscosity	150 cSt / SAE20	
Inlet/Outlet	1" BSP	
Flowrate	44 litres/minute	
Mounting size	170mm	
Discharge head	5 metres	
Additional Info	<ul style="list-style-type: none"> • reversible rotary action • self-priming • designed to be mounted in-line • hose tails available as optional extras • hoses available as optional extras 	
Weight	5 kg	



Fluid Compatibility Chart page 87

Please refer to flap on inside back cover for material definitions & other technical terms

Model No.	RPV2A	Category C
Price	£193.00	
Wetted parts	Cl - alu - NBR	
Inlet/Outlet	1" BSP	
Flowrate	46 litres/minute	
Mounting size	155mm	
Weight	4.5 kg	



Rotary Pumps - Metal

Drum top cover
- see page 49



Model No.	RP90	
Price	£24.95	Category C
Fluid	all petroleum products - anti-freeze cast iron - sinter steel - NBR	
Wetted parts	cast iron - sinter steel - NBR	
Viscosity	440 cSt / SAE30	
Flowrate	27 litres / minute	
Inlet/Outlet	30 mm / 25 mm o/d	
Fitting	2" BSP barrel adaptor	
Riser Tube	rigid to suit 210 litre barrel	
Additional Info	can be modified to suit 48" deep tanks as optional extra	
Weight	4.8 kg	

Model No.	RP903	
Price	£25.95	Category C
As above but with 3-piece sectional riser tube.		



Model No.	RP91A	
Price	£66.95	Category C
Fitting	2" BSP barrel adaptor	
Riser Tube	3-piece sectional to suit 210 litre barrel	
Fluid	petrol - diesel - kerosene - light oils - anti-freeze - alcohols - water - corrosive chemicals	
Wetted parts	alu - steel - ryton - viton	
Viscosity	440 cSt / SAE30	
Flowrate	30 litres / minute	
Inlet/Outlet	30 mm / 25 mm o/d	
Hose length mm	1250	
Weight	3 kg	

Model No.	WS16	
Price	£16.95	Category E
Flowrate	16 litres / minute max.	
Outlet/Inlet	20 mm / 18 mm o/d	
Weight	3.4 kg	

Model No.	WS25	
Price	£18.95	Category E
Flowrate	25 litres / minute max.	
Inlet/Outlet	23 mm / 23 mm o/d	
Weight	4.1 kg	

Model No.	WS253	
Price	£19.95	Category E
As above but with 3-piece sectional riser tube.		

Common Specification		
Viscosity	440 cSt / SAE30	
Wetted parts	cast iron - sinter steel - NBR	
Fluid	all grades of oil - diesel - kerosene - anti-freeze	
Fitting	2" BSP barrel adaptor	
Riser Tube	rigid to suit 210 litre barrel	



Drum opening tools - see page 56
Oil measures - see page 50



Model No.	SC20	
Price	£59.00	Category C
Flowrate	20 litres / minute max.	
Inlet/Outlet	25 mm / 20 mm o/d	
Weight	4.5 kg	

Model No.	SC25	
Price	£69.00	Category C
Flowrate	25 litres / minute max.	
Inlet/Outlet	30 mm / 25 mm o/d	
Weight	5.5 kg	

Common Specification		
Viscosity	440 cSt / SAE30	
Fluid	all grades of oil - diesel - petrol - kerosene - anti-freeze	
Wetted parts	cast iron - ryton - SS - steel - NBR - PE hose	
Fitting	2" BSP barrel adaptor	
Riser Tube	rigid to suit 210 litre barrel	
Additional Info	can be modified to suit 48" (1220 mm) deep tanks as optional extra	



Model No.	RP90NS	
Price	£99.95	Category B
Fluid	all petroleum products up to light oils, anti-freeze, mineral oil	
Wetted parts	cast alu - bronze alloy - viton	
Viscosity	440 cSt / SAE30	
Flowrate	25 litres / minute	
Inlet/Outlet	32 / 25 mm	
Fitting	2" BSP barrel adaptor	
Riser Tube	3-piece sectional to suit 210 litre barrel	
Additional Info	<ul style="list-style-type: none"> non-spark operation optional extra: additional section of tube to fit 48" (1220 mm) deep tanks 	
Weight	3.5 kg	



MANUALLY OPERATED PUMPS

Rotary Pumps - Plastic

Drum top cover - see page 49

Drum openers - see page 56

Fluid Compatibility Chart page 87

Model No.	PP9	Category C
Price	£64.50	
Fluid	all petroleum products - water-based chemicals - solvents - water - biodiesel	
Wetted parts	PP - ryton - viton - PE	



Model No.	PR9	Category C
Price	£82.50	
Fluid	aggressive chemicals - chlorinated solvents - aromatic / aliphatic hydrocarbons - biodiesel	
Wetted parts	ryton - viton - Teflon	

Common Specification

Flowrate	35 litres / minute
Inlet/Outlet	30 mm / 25 mm o/d
Fitting	2" BSP barrel adaptor
Riser Tube	3-piece sectional to suit 210 litre barrel
Additional Info	reversible rotary action
Weight	2.9 kg

Model No.	PP9XL	Category C
Price	£84.00	



Model No.	PR9XL	Category C
Price	£95.00	

Common Specification

'Super-size' versions of the PP9 & PR9 but with the following additional enhanced features:

Viscosity	440 cSt / SAE30
Flowrate	0.4 litre / revolution 50 litres / minute max.
Inlet/Outlet	30 mm / 30mm
Weight	3 kg

Please refer to flap on inside back cover for material definitions & other technical terms

BEST QUALITY



Same as PR9XL but with 304 SS spout - suitable for Adblue and aggressive chemicals.

Model No.	PR9XA	Category B
Price	£104.95	
Fluid	adblue - aggressive chemicals - solvents - hydrocarbons	
Wetted parts	ryton - 304SS - Teflon - viton	
Weight	3 kg	



Model No.	RPVC	Category E
Price	£35.95	
Fluid	alcohols - ammonias - chemicals - solvents - water	
Wetted parts	PVC - Teflon - SS	
Viscosity	200 cSt / SAE20	
Flowrate	0.25 litre / rev - 27 litres / minute	
Inlet/Outlet	25 mm / 25 mm	
Fitting	2" BSP barrel adaptor	
Riser Tube	3-piece sectional to suit 210 litre barrel	
Weight	1.7 kg	

Model No.	PRT	Category C
Price	£99.95	
Fluid	petrol - light oils - fuel oil - solvents - water - chemicals	
Wetted parts	ryton - 304SS - PTFE	
Viscosity	440 cSt / SAE30	
Flowrate	0.35 litre / rev - 30 litres / minute	
Inlet/Outlet	30 mm / 25 mm o/d	
Fitting	2" BSP barrel adaptor	
Riser Tube	3-piece sectional to suit 210 litre barrel	
Additional Info	3-vane rotor	
Weight	3 kg	



Insulated Anti-Static Grounding Wires

Static electricity may be generated by the operation of hand pumps - particularly rotary pumps. In order to prevent sparking caused by static build-up, when pumping flammable liquids a bonding wire must be used. i.e. the container must be grounded to earth by means of a conductive earthing lead fastened between the container and a suitable grounded earth point.



RPC

Model No. RPC
Price £37.95 **Category E**
Model No. RPCH
Price £54.95 **Category E**
 As RPC but fitted with 3 metres reinforced delivery hose with 20cm SS straight nozzle.
Common specification
Wetted parts die-cast alu - plated steel - NBR - PP - PE
Viscosity 200 cSt / SAE20
Fluid Adblue - petrol - diesel - kerosene - low viscosity oils to SAE20 - biodiesel
Flowrate 0.3 litre/revolution ~ 20 litres/min
Inlet/Outlet mm 25 / 25 o/d
Fitting 2" BSP barrel adaptor
Riser Tube 3-piece sectional to suit 210 litre barrel
Weight 1.5 kg



RPCH

Rotary Pumps - Fuel & Oil

Model No. LP32
Price £150.00 **Category C**
Fluid petrol - diesel - kerosene - hydraulic oils - biodiesel
Wetted parts die-cast alu - cast iron - SS - plated steel - NBR - vinyl - PE hose
Weight 6 kg



LP32

Model No. LP32A
Price £149.00 **Category C**
Wetted parts die-cast alu - cast iron - SS - plated steel - NBR - vinyl - PE hose
Fluid petrol - diesel - kerosene
Weight 6.5 kg
Hose length 2000 mm

Model No. LP32R
Price £190.00 **Category C**
Fluid petrol - diesel - kerosene - hydraulic oils - biodiesel
Wetted parts die-cast alu - cast iron - SS - plated steel - NBR - vinyl - nylon hose
Flowrate 0.5 litre/revolution ~ 50 litres/min
Inlet/Outlet 30 mm / 12mm i/d hose
Fitting 2" BSP barrel adaptor
Riser Tube rigid to suit 210 litre barrel
Additional Info

- reversible rotary action
- #80 mesh strainers at inlet & outlet

Weight 9 kg
Hose length 2000 mm

Common Specification
Viscosity 110 cSt / SAE10
Flowrate 1 litre / revolution ~ 100 litres / min
Hose length mm 1250 (LP32A - 2000 mm)
Inlet/Outlet 30 mm / 30 mm o/d
Fitting 2" BSP barrel adaptor
Riser Tube rigid to suit 210 litre barrel
Additional Info

- twin impellers
- 32mm outlet
- #80 mesh strainer



LP32A



LP32R



Ultra high-flow, heavy duty refuelling pump with extra long delivery hose.
Model No. RP88
Price £175.00 **Category C**
Fluid petrol - diesel - kerosene - low viscosity oils to SAE30 - biodiesel
Wetted parts die-cast alu - plated steel - NBR - PP - PE
Weight 7 kg
Model No. RP88F
Price £199.00 **Category C**
 As RP88 but fitted with FF02 (10 micron) fuel filter
Weight 7.7 kg



Common specification
Viscosity 110 cSt / SAE10
Flowrate 1.1 litre/revolution ~ 110 litres/min
Hose length M 2.6
Inlet/Outlet mm 32 / 25
Fitting 2" BSP barrel adaptor
Riser Tube 3-piece sectional to suit 210 litre barrel
Additional Info

- twin impellers
- heavy duty kink-proof rubber fuel hose
- #80 inlet mesh strainer
- tidy nozzle retainer

Please refer to flap on inside back cover for material definitions & other technical terms

Specialist Rotary Pumps



Model No.	RSR	Category C
Price	£125.00	
Fluid	liquid foodstuffs - corrosive chemicals - solvents - all oils - biodiesel	
Wetted parts	ryton - 304SS - Teflon	
Weight	2.6 kg	



Model No.	RSS	Category C
Price	£299.95	
Fluid	corrosive chemicals - solvents - all oils - mineral oil - alcohols - sodium solutions - adblue	
Wetted parts	304SS - Teflon	
Weight	4.7 kg	



Model No.	RST	Category C
Price	£280.00	
Fluid	strong acids & alkalis up to 100% concentration - adblue	
Wetted parts	Teflon - 304SS	
Weight	1.6 kg	

Common Specification

Viscosity	440 cSt / SAE30
Flowrate	0.35 litre/revolution - 25 litres / minute
Inlet/Outlet	30 mm / 25 mm o/d
Fitting	2" BSP barrel adaptor
Riser Tube	3-piece sectional to suit 210 litre barrel

PLEASE VISIT
http://www.hartleige.com/downloads/chemic_compatible.pdf
 for our chemical compatibility chart



Insulated Anti-Static Grounding Wires

Static electricity may be generated by the operation of hand pumps - particularly rotary pumps. In order to prevent sparking caused by static build-up, when pumping flammable liquids a bonding wire must be used. i.e. the container must be grounded to earth by means of a conductive earthing lead fastened between the container and a suitable grounded earth point.



Model No.	LP99	Category C
Price	£230.00	
Fluid	chemicals - solvents	
Wetted parts	ryton - 304SS - Teflon - PE hose	
Viscosity	110 cSt / SAE10	
Flowrate	1 litre / revolution - 100 litres / min	
Hose length mm	1250	
Inlet/Outlet	30 mm / 30 mm o/d	
Fitting	2" BSP barrel adaptor	
Riser Tube	rigid to suit 210 litre barrel	
Additional Info	<ul style="list-style-type: none"> • twin impellers • 32mm outlet • #80 mesh strainer 	
Weight	4.4 kg	

Semi-Rotary Pumps - Bronze



Model No.	SRE0BBE	Category C
Price	£420.00	
Inlet/Outlet	1/2" BSP	
Flowrate	16 litres/minute	
Mounting size	125mm	
Weight	3.5 kg	

Model No.	SRE1BBE	Category C
Price	£495.00	
Inlet/Outlet	3/4" BSP	
Flowrate	20 litres/minute	
Mounting size	150mm	
Weight	3.5 kg	

Model No.	SRE2BBE	Category C
Price	£585.00	
Inlet/Outlet	1" BSP	
Flowrate	30 litres/minute	
Mounting size	170mm	
Weight	4.5 kg	

Model No.	SRE3BBE	Category C
Price	£820.00	
Inlet/Outlet	1.1/4" BSP	
Flowrate	40 litres/minute	
Mounting size	190mm	
Weight	4.5 kg	

Common Specification

Viscosity	50 cSt
Fluid	all petroleum products - water - seawater - chemicals & solvents
Wetted parts	CI - bronze - viton
Discharge head	8 metres
Additional Info	<ul style="list-style-type: none"> • double acting • reciprocating • self-priming • barrel fitting kit available as an optional extra • hoses available as optional extras



Semi-Rotary Pumps - Cast Iron

K Range

The 'K' range is self-priming and double-acting with cast-iron body and brass internals. The main seal is impregnated with Teflon. The range incorporates many original technical features which make it the best of its type:

- Reinforced inlet, discharge and lugs for increased durability
- Tapered internal body – a unique technological advantage which assures automatic settlement of the wings in the body and guarantees smooth efficient operation
- A frost/lube point plug - allows water to be drained if there is a risk of frost and lubricant to be introduced if required
- Thorough quality control - each pump is individually tested
- Suitable for water, diesel, all fuels, paraffin, alcohol, light chemical solutions
- Can be used with very hot liquids - up to 80°C (176°F)
- Viscosity 100 cSt



YL Range

The 'YL' range of semi-rotary pumps are self-priming and double-acting with cast-iron body and brass workings. Suitable for a wide variety of liquids including water, water-based solutions, all petroleum products, non-corrosive solvents, etc. (Note: YL5 and YL7 are not self-priming).



	'K' RANGE						'YL' RANGE						Category E
Model No.	K0	K1	K2	K3	K5	K7	YL0	YL1	YL2	YL3	YL5	YL7	
Price	£45.00	£51.00	£63.00	£80.00	£115.00	£140.00	£45.00	£51.00	£62.00	£77.00	£115.00	£130.00	
Size inches (BSP) inlet/outlet	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	
Delivery rate litres per minute	12	18	25	30	55	90	15	20	30	40	85	105	
Double stroke per minute max.	65	60	55	50	45	40	100	90	80	70	60	50	
Maximum lift in metres	7	7	7	7	7	7	4	4	5	5	5	5	
Maximum pumping head in metres	25	25	25	22	20	15	25	25	30	20	15	10	
Nett Weight kg	5.5	6.9	9	12	20	38	4.5	4.7	6.5	7	21	36	

A foot valve should be fitted for prolonged use at depths below 3 metres

Dimensions	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"
A (inches)	12	12	12	12	12	12	7	7	7	7	11	11
B (mm)	12	12	12	12	12	12	7	7	7	7	11	11
C (mm)	55	63	74	88	98	115	60	60	72	78	100	80
D (mm)	80	98	107	120	133	143	80	80	95	100	130	142
E (mm)	45	62	73	80	93	143	38	38	50	57	88	142
F (mm)	12	12	12	12	12	12	10	10	11	11	13	13
G (mm)	135	152	172	200	245	300	125	125	150	160	200	260
H (mm)	128	142	170	198	235	305	130	130	130	143	236	297
I (mm)	164	185	200	224	277	355	155	155	166	173	283	345
J (mm)	222	264	293	335	388	470	210	210	240	255	410	460
K (mm)	285	290	370	442	650	735	340	340	340	340	540	750
L (mm)	170	170	175	207	232	305	135	135	135	135	235	305
M (mm)	183	190	200	235	265	285	175	175	185	190	272	300



Model No. BFK
Price £29.00 Category B

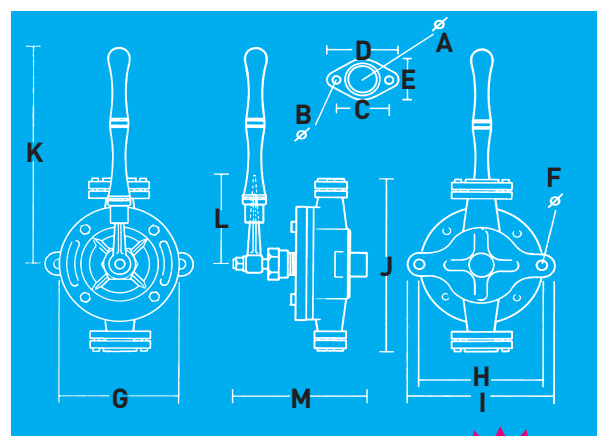
A barrel fitting kit for YL and K pumps is available comprising:

- 48" (122mm) mild steel riser tube
- 2" BSP barrel adaptor
- 2 metres reinforced nylon delivery hose
- Bent tip steel nozzle

Not recommended for K5/YL5.
 Not suitable for K7/YL7.



Schematic for 'K' & 'YL' Pumps



Fluid Compatibility Chart page 87

NEW RANGE

Lever Pumps / Metal - Gear Oil



Durable yet lightweight aluminium barrel pump for all grades of oil, including gear oils.

Model No. 4B

Price £59.95 **Category B**

Fluid all petroleum products - kerosene - all grades of oil - lubricants

Wetted parts die- cast alu - plated steel - NBR - POM - PE

Viscosity 1000 cSt / SAE50+

Flowrate 0.6 litre / stroke - 25 litres / minute

Inlet/outlet mm 30/20

Fitting 2" BSP barrel adaptor

Riser Tube 3-piece sectional to suit 210 litre barrel

Additional Info

- integral anti-drip nozzle
- tray with cover & drip return

Weight 3 kg



Durable yet lightweight barrel pump for all grades of oil, including gear oils.



Model No. 6B

Price £29.95 **Category C**

Fluid all grades of oil - diesel - kerosene - anti-freeze - lubricants

Wetted parts plated steel - die-cast zinc alloy - NBR - PE

Viscosity 1000 cSt / SAE50+

Flowrate 0.5 litre/stroke - 20 litres/min

Inlet/Outlet 7/8" / 3/4"

Fitting 2" BSP

Riser Tube 2-piece telescopic to suit 210 litre barrel

Additional Info

- self-priming
- complete with 1 x straight anti-drip spout & 1 x curved spout

Weight 2.5 kg



Lever Pumps / Metal - General



Model No. 6AL

Price £16.95 **Category E**

Fluid oils - diesel - kerosene - anti-freeze - non-corrosive solvents

Wetted parts steel - nylon - die-cast alloy

Weight 2.1 kg

Model No. 6ALA

Price £22.95 **Category E**

Fluid light/medium oils - diesel - kerosene - anti-freeze - alcohols - water

Wetted parts alu - steel - PE - NBR

Weight 2.1 kg

Model No. 6ALS

Price £82.50 **Category E**

Fluid corrosive chemicals - petrol - solvents - water - adblue

Wetted parts 304SS - Teflon

Weight 2.3 kg

Common Specification

Viscosity 240 cSt / SAE20

Flowrate 0.3 litre / stroke - 14 litres / minute

Outlet 20 mm o/d

Fitting 2" BSP integral thread

Riser Tube telescopic to suit 210 litre barrel



Versatile stainless steel barrel pump for oils, solvents & chemicals, including aggressive chemicals.

Model No. 6BS

Price £179.95 **Category C**

Fluid light/medium oils - diesel - kerosene - petrol - solvents - thinners - cleaning solutions - esters - ketones - alcohols - acids - alkalis - water & water-based solutions

Wetted parts 304 SS - PVDF - Teflon

Viscosity 240 cSt / SAE20

Flowrate 0.3 litre/stroke - 14 litres/min

Inlet/Outlet 1" / 3/4"

Fitting 2" BSP

Riser Tube 2-piece telescopic to suit 210 litre barrel

Additional Info

- self-priming

Weight 3.5 kg



Model No. 6LT

Price £21.50 **Category C**

Fluid all petroleum products - anti-freeze - non-corrosive solvents - thinners

Wetted parts steel - nylon

Viscosity 240 cSt / SAE20

Flowrate 0.4 litre / stroke - 16 litres / minute

Fitting 2" BSP integral thread

Riser Tube telescopic to suit 210 litre barrel

Additional Info

- uptum anti-drip nozzle
- heavy duty action

Weight 2.5 kg



Lever Pumps / Plastic

Fluid Compatibility Chart page 87

Model No.	LPP4A	
Price	£17.95	Category E
Colour	Red	
Fluid	light to medium oils - kerosene - diesel - petrol - mild chemicals - ketones - aliphatic hydrocarbons - some alcohols - adblue	
Wetted parts	PP - viton - 316SS	



Model No.	LPP4	
Price	£18.95	Category E
Colour	Blue	
Fluid	light oils - kerosene - diesel - water - water-based chemicals - mild solvents - some alcohols	
Wetted parts	PP - viton - zinc-plated steel	



Model No.	LPP4S	
Price	£27.00	Category E
Colour	Yellow	
Fluid	light oils - kerosene - diesel - water - chemicals - solvents - weaker acid/alkali solutions	
Wetted parts	PP - viton - SS	

Model No.	LPR4	
Price	£36.00	Category E
Colour	Black	
Wetted parts	nylon - viton - SS	
Fluid	light oils - kerosene - diesel - anti-freeze - water - alcohols - chemicals - solvents - stronger acid/alkali solutions	

Model No.	LPR4S	
Price	£56.00	Category E
Colour	Black	
Fluid	all petroleum products - water - alcohols - chemicals - solvents - strong acid/alkali solutions up to 100% concentration - adblue	
Wetted parts	nylon - Teflon - SS	



Model No.	LPT4S	
Price	£125.00	Category E
Colour	White	
Fluid	extremely aggressive chemicals and solvents, and highly concentrated acid and alkali solutions - up to 100% - adblue	
Wetted parts	Teflon - 316SS	

Common Specification	
Viscosity	240 cSt / SAE20
Flowrate	0.5 litre / stroke - 30 litres / minute
Outlet	23 mm o/d
Fitting	1 1/2" / 2" BSP integral thread
Riser Tube	3-piece sectional to suit 210 litre barrel
Weight	1 kg
Additional Info	optional extra: additional section of tube to fit 48" (1220 mm) deep tanks



LPP pumps can act as syphon pumps if required.

Model No.	LPP500	
Price	£34.95	Category C
Colour	red / black	
Fluid	petrol - diesel - kerosene - all grades of oil	
Wetted parts	PP - NBR	

Model No.	LPP500S	
Price	£39.95	Category C
Colour	yellow / black	
Fluid	all petroleum products - light oils - chemicals - solvents - some acids/alkalis	
Wetted parts	PP - Viton	

Common Specification	
Viscosity	240 cSt / SAE20
Flowrate	0.5 litre/stroke - 40 litres/minute
Outlet	<ul style="list-style-type: none"> supplied with 25 mm id x 1400mm PE hose syphon control nozzle
Fitting	2" BSP integral thread
Riser Tube	3-piece telescopic to suit 210 litre barrel
Weight	1 kg



Syphon control nozzle

MANUALLY OPERATED PUMPS

Piston Pumps

**PRICE
DROP**

Insulated Anti-Static Grounding Wires

Static electricity may be generated by the operation of hand pumps – particularly rotary pumps. In order to prevent sparking caused by static build-up, when pumping flammable liquids a bonding wire must be used. i.e. the container must be grounded to earth by means of a conductive earthing lead fastened between the container and a suitable grounded earth point.



PP20R

Model No.	PP20P	Category	B
Price	£69.00		
Fluid	petrol – diesel – kerosene – anti-freeze – non-corrosive chemicals – adblue		
Wetted parts	PP – Teflon – 304SS – 316SS – PE hose		
Colour	yellow		



PP20P

Model No.	PP20R	Category	B
Price	£89.00		
Fluid	petrol – diesel – kerosene – light oils – anti-freeze – alcohols – water – corrosive chemicals		
Wetted parts	ryton – Teflon – 316SS – PE hose		
Colour	black		

Common Specification

Viscosity	440 cSt / SAE30
Flowrate	0.45 litre/stroke
Fitting	2" BSP barrel adaptor
Hose length mm	1400
Riser Tube	3-piece telescopic to suit 210 litre barrel
Weight	2.8 kg
Additional Info	<ul style="list-style-type: none"> • piston action • lockable

Syphon Pumps

**PRICE
DROP**

**BEST
QUALITY**

BETA2/BETA2V

Model No.	BETA2	Category	C
Price	£55.95		
Weight	1.5 kg		

Model No.	BETA2Z	Category	C
Price	£63.95		

As BETA2 but with mounting bracket.

Model No.	BETA2B	Category	C
Price	£74.95		

As BETA2 but with barrel fitting kit.

Weight	2.5 kg
---------------	--------

Common Specification – BETA2 – BETA2Z – BETA2B

Fluid	oil – all petroleum products – water
Wetted parts	alu – mild steel – NBR

Model No.	BETA2V	Category	C
Price	£97.95		
Weight	1.5 kg		

Model No.	BETA2VB	Category	C
Price	£106.95		

As BETA2V but with barrel fitting kit.

Weight	2.5 kg
---------------	--------

Common Specification – BETA2V – BETA2VB

Fluid	oil – all petroleum products – water – chemicals & solvents
Wetted parts	alu – mild steel – viton

Common Specification – ALL ABOVE

Viscosity	150 cSt
Flowrate	40 litres/minute
Inlet/Outlet	1/2" BSP / 16mm
Fitting	2" BSP
Additional Info	<ul style="list-style-type: none"> • single action • self-priming • lightweight • can be used stand alone; in-line; or as a barrel pump



BETA2Z



BETA2B/BETA2VB



SP05

Model No.	SP05	Category	E
Price	£0.95		

Wetted parts	LDPE
Hose length mm	1830
Additional info	hand-held
Weight	60 g

Model No.	SP10	Category	E
Price	£1.95		

Wetted parts	LDPE
Hose length mm	535
Riser tube	rigid to suit containers up to 380mm deep
Weight	70 g



SP10

**Fluid
Compatibility
Chart
page 87**



Model No.	SP12	
Price	£7.95	Category E
Wetted parts	HDPE - LDPE - PP	
Flowrate	6 litres / minute approx. (siphon)	
Hose length cm	2 x 145	
Dimensions	350 mm long x 70 mm dia. (without hoses)	
Fluid	water - diesel - kerosene - petrol - light oils - solvents	



Polyethylene syphon pumps are virtually corrosion proof and can be used with any container up to a depth of 37" (940 mm). The fluid is pumped through the pump head into a receptacle lower than the level of fluid in the container being emptied and will syphon the contents as required with no further effort. Suitable for most liquids, including alkalis, acids, anti-freeze, light oils, thinners, de-greasers, solvents, etc.



Model No.	SP22	
Price	£11.95	Category E
Wetted parts	PP - PVC - PU	
Additional info	hand-held	
Weight	400 g	

Model No.	SP25	
Price	£9.95	Category E
Wetted parts	PE - PVC - PP	
Additional info	extra hoses & fittings for air inflation of tyres, airbeds, boats etc	
Weight	450 g	
Hose length in/out mm	1270 / 1270	
Operation	hand-held	



Model No.	SP15	
Price	£6.75	Category E
Flowrate	20 litres / minute approx.	
Hose length mm	1065	
Weight	300 g	

Model No.	SP20	
Price	£8.95	Category E
Flowrate	30 litres / minute approx.	
Hose length mm	1245	
Weight	350 g	

Common Specification		
Wetted parts	HDPE	
Fitting	2" BSP integral thread	
Riser tube	rigid to suit containers up to 940 mm deep	



Model No.	SP30	
Price	£19.95	Category E
Wetted parts	PVC - PP - PE	
Fluid	water - diesel - light oils - mild/non-corrosive chemicals - detergents	

Model No.	SP35	
Price	£19.95	Category E
Wetted parts	PP - PE - nylon	
Fluid	water - diesel - all oils - mild chemicals & solvents - detergents - adblue	

Common Specification		
Viscosity	440 cSt / SAE30	
Flowrate	0.25 litres / stroke (manual) 30 litres / minute approx. (siphon)	
Hose length mm	1350	
Riser tube	rigid to suit containers up to 940 mm deep	
Fitting	2" BSP barrel adaptor	
Additional info	can be used as a manual lift pump	
Weight	900 g	



Model No.	BP8	
Price	£7.95	Category E
Fluid	water - diesel - light oils - mild/non-corrosive chemicals	

Wetted parts	PP - PE	
Flowrate	8 - 10 litres / minute approx. (siphon)	
Hose length mm	580	
Riser tube	rigid to suit containers up to 400 mm deep	
Drum type	For emptying sumps, bottles, buckets, tubs, small drums, jerry cans	
Additional info	Requires 3v DC (LR20 / "D") batteries x 2 (NOT supplied)	

**** Important note** NOT explosion proof - NOT for use with petrol
Weight 250 g (without batteries)

AdBlue® (DEF) helps to reduce the amount of harmful nitrogen oxides found in the vehicles' emissions. AdBlue emissions control equipment cleans exhaust gases helping cars to comply with the new EU6 exhaust emissions regulations.

AdBlue is appearing in more and more cars, including VW, Skoda, Seat, BMW and Mercedes; as more vehicles comply with the Euro 6 diesel standard the use of AdBlue is likely to increase. The German Association of the Automotive Industry (VDA) controls the "AdBlue" trademark and uses it to ensure quality standards are maintained in accordance with DIN 70070 and ISO 22241 specifications. Diesel exhaust fluid (DEF), commonly referred to as AdBlue in Europe, Australia and New Zealand, and standardised as ISO 22241, is a solution composed of 32.5% urea and 67.5% demineralised water. It is non-toxic, colourless, odourless and non-flammable. AdBlue is injected into the engine's exhaust gases and in the resulting chemical reaction, the nitrogen oxides in the exhaust are converted into harmless nitrogen and water vapour. It is a consumable used in selective catalytic reduction (SCR) in order to lower the concentration of nitrogen oxides in the exhaust emissions from diesel engines. DEF is stored in a tank on board the vehicle, and injected into the exhaust stream by a metering system. The injection rate depends on the specific after-treatment system, but is typically 2-6% of diesel consumption volume. This low dosing rate ensures long fluid refill intervals and minimises the tank's size. An electronic control unit adjusts the addition of fluid in accordance with such parameters as engine operating temperature and speed. A passenger car will consume approximately 1.5 litres of AdBlue every 620 miles. AdBlue belongs to the lowest water pollution hazard category but is a skin irritant and a corrosive liquid that can cause injury if it touches the skin, eyes or respiratory organs. The urea solution is clear, non-toxic and safe to handle. However, it can corrode some metals and so must be handled, stored and transported carefully. It is recommended that DEF be stored in a cool, dry, and well-ventilated area that is out of direct sunlight. Although not toxic, DEF can cause the catastrophic de-oxygenation of water bodies leading to damage of the aquatic environment and so careful handling and storage is essential.

NEW RANGE



Model No. RPC
Price **£37.95** Category **E**

Model No. RPCH
Price **£54.95** Category **E**

As **RPC** but fitted with 3 metres reinforced delivery hose with 20cm SS straight nozzle.

For full details see page 27



Model No. PR9XA
Price **£104.95** Category **B**

For full details see page 26



Model No. 6ALS
Price **£82.50** Category **E**

For full details see page 30



Model No. LPP4A
Price **£17.95** Category **E**

For full details see page 31



Model No. FMK24
Price **£69.95** Category **C**

For full details see page 39



Model No. TNAD
Price **£11.95** Category **C**

For full details see page 41



Model No. TNADA
Price **£199.95** Category **C**

For full details see page 41

Other ADBLUE pumps:
Model PP20P – page 32
Model RSS & RST – page 28

Model No. GFKA
Price **£29.95** Category **B**

For full details see page 40



12/24 VOLT SUBMERSIBLE PUMPS

A new range of simple, compact, low cost submersible pumps designed to be dropped into tanks, drums, vessels, sumps etc., to transfer: DIESEL ~ LIGHT OILS ~ WATER ~ SUMP WATER ~ KEROSENE ~ WATER-BASED FLUIDS ~ PESTICIDES.

Features:

- Narrow slimline design for small apertures
- EMC compliant
- CE marked
- Low power consumption
- Watertight electrics
- Sonic welded construction

Technical info:

- Viscosity 100cSt / SAE10-15
- 10mm (3/8") / 13mm (1/2") outlet
- Wetted parts: ABS ~ NBR ~ PP ~ PBT ~ PVC cable
- Integral strainer
- Hose available as optional extra
- Crocodile clips available as optional extras
- Weight 150g



SUGP1002



SUGP1642



SUCS9217B + HOSE



SUCS9217B

Technical Data

Model No.	Flowrate Litres/min	Volts / amps	Cable Length M / FT	H x Dia mm	Crocodile Clips inc	Price
SUGP1002	10	12 / 2.4	1 / 3.25	98 x 36	No	£10.50
SUGP1352	13	12 / 3.6	1 / 3.25	129 x 36	No	£26.50
SUGP1354	13	24 / 3.6	1 / 3.25	129 x 36	No	£34.60
SUGP1642	16	12 / 3.8	3.6 / 12	129 x 36	Yes	£45.95
SUGP1642 also includes cigar lighter adaptor, delivery hose & nozzle.						
SUGP1652	14	12 / 3.7	1 / 3.25	129 x 36	No	£33.35
SUCS9217B	14	12 / 2.4	3.6 / 12	129 x 36	Yes	£47.50
SUGP1692	14	12 / 3.7	1 / 3.25	129 x 36	no	£45.95

SUGP1692 is an in-line booster pump designed to be used in conjunction with any of the above pumps to boost performance and increase flow rate, especially over longer runs.

SUCC Crocodile clips to fit all above - pair £2.75

Category C



SUC9217B+ SUGP1692



SUGP1692



SUGP1352/1354/1652

**Fluid
Compatibility
Chart
page 87**

AIR OPERATED PUMPS

PRICE
DROP

Model No. AOP5668 **Category B**

Price £139.95

Outlet 1/2" BSPF

Weight 3.7 kg

Model No. AOP5668N

Price £159.95

Outlet swan neck outlet spout c/w anti-drip nozzle

Weight 4.7 kg

Model No. AOP5668H

Price £144.95

Outlet 2 metres x 1/2" bore clear braided reinforced nylon hose & bent tip nozzle

Weight 4.4 kg

Model No. AOP5011

Price £175.00

Outlet 1/2" BSPF

Weight 6.5 kg

Model No. AOP5011H

Price £250.00

Outlet as AOP5011 but also fitted with 4 metres x 1/2" bore h.p. reinforced oil hose & oil control nozzle

Weight 9.3 kg

Model No. AOP5011HF

Price £325.00

Outlet as AOP5011H but also fitted with FM400 flowmeter

Weight 10.7 kg

Model No. AOP5011W

Note: This version of AOP5011 is wall-mounted and comes c/w bracket

Price £199.00

Outlet 1/2" BSPF

Riser tube rigid riser tube for 210 litre barrel with high pressure flexible hose to connect to pump

Weight 10 kg

Model No. AOP5011WH

Price £260.00

Outlet as AOP5011W but also fitted with 4 metres x 1/2" bore h.p. reinforced oil hose & oil control nozzle

Weight 11.5 kg

Model No. AOP5011WHF

Price £360.00

Outlet as AOP5011WH but also fitted with FM400 flowmeter

Weight 13 kg



AOP5668



AOP5668N



AOP5668H



AOP5011



AOP5011H



AOP5011HF



AOP5011W



AOP070
AOP0105

Model No. AOP070 **Category B**

Price £265.00

Outlet 3/8" BSPF

Weight 6.6 kg

Model No. AOP070H

Price £348.00

Outlet as AOP070 but also fitted with 4 metres x 3/8" bore h.p. reinforced oil hose & oil control nozzle

Weight 9.4 kg

Model No. AOP0105

Price £399.00

Outlet 3/8" BSPF

Weight 10 kg

Model No. AOP0105H

Price £479.00

Outlet as AOP0105 but also fitted with 4 metres x 3/8" bore h.p. reinforced oil hose & oil control nozzle

Weight 12.8 kg



AOP070H
AOP0105H



AOP5011WH

A new range of high output, lightweight, low cost, pneumatic pumps for a wide variety of low viscosity fluids



Model No.	AOP9721	Category B
Price	£109.95	
Outlet	1" BSPF / 22 mm o/d	
Fluid	Adblue - water - coolant - alcohols - diesel - kerosene - light oils - water-based acids & alkali solutions	
Wetted parts	PP - viton - SS	
Weight	1.7 kg	
Model No.	AOP9721H	
Price	£124.95	
Outlet	as AOP9721 but fitted with 2 metres clear braided reinforced nylon hose & bent tip nozzle	
Weight	3.4 kg	
Model No.	AOP9721N	
Price	£139.95	
Outlet	as AOP9721H but with TNAD trigger nozzle	
Weight	3.4 kg	

Technical Data

Model	Ratio	Inlet BSPF	Outlet BSPM	Air Inlet Pressure PSI	Output Pressure BAR	Output Pressure PSI	Delivery Rate Per stroke	Litres Per Minute
AOP5668	1:1	1/4"	1/2"	140 max.	8	20-120	48 cc	15
AOP5011	1:1	1/4"	1/2"	100 max.	56	700	n/a	22
AOP5011W	1:1	1/4"	1/2"	100 max.	56	700	n/a	22
AOP070	3:1	1/4"	3/8"	100 max.	168	2100	n/a	10
AOP0105	5:1	1/4"	1/2"	100 max.	280	3500	n/a	22
AOP9721	1:1	1"	1"	100 max.	1	80-100	n/a	30

- Viscosity 100cSt / SAE10-30
- Suitable for low to medium viscosity oils, mineral & synthetic motor oils, antifreeze, transmission fluid
- Riser tube length suitable for 210 litre barrels c/w 2" BSP barrel adaptor
- Air connectors NOT supplied
- Models AOP5668 ~ AOP5011 ~ AOP070 ~ AOP0105 NOT to be used with petrol, diesel or fuel oils
- Model AOP9721 suitable for use with diesel and fuel oils

The Compression Ratio

The compression of a pneumatic pump is the direct ratio between the pressure of the compressed air introduced, and the pressure leaving the pump. e.g.: a pump with a compression ratio of 5:1 - air pressure introduced at 1 bar will output fluid at about 1 x 5 = 5 bar
air pressure introduced at 6 bar will output fluid at about 6 x 5 = 30 bar

ELECTRICALLY OPERATED PUMPS

Heavy Oil Pumps

Hoses - see page 40
Hose Kits & Oil Nozzles - see page 41

Model No.	V70	
Price	£415.00	Category B
Voltage	230v AC single phase	

Model No.	V70S	
Price	£465.00	Category B
Voltage	110v AC single phase	

Common Specification

Capacity	30 litres / minute
Fluid	heavy / viscous oils - waste oil
Inlet/outlet	1" / 1" BSPF
Additional info	<ul style="list-style-type: none"> • maximum viscosity 500 cSt • duty cycle continuous • steel rotor with vanes • integral bypass valve • IP55 weather protection
Weight	13.4 kg

Model No.	V70WM	
Price	£699.00	Category B
Voltage	230v AC single phase	
Capacity	30 litres / minute	

Additional info	same specification as V70, comes with: <ul style="list-style-type: none"> • wall bracket plate • flowmeter • 4 metres delivery hose • trigger nozzle
Weight	20 kg



Model No.	V90	
Price	£460.00	Category B
Voltage	230v AC single phase	
Capacity	50 litres / minute	
Fluid	<ul style="list-style-type: none"> • heavy / viscous oils - waste oils • up to 500 cSt 	
Inlet/outlet	1" / 1" BSPF	
Additional info	<ul style="list-style-type: none"> • duty cycle continuous • steel rotor with vanes • integral bypass valve • IP55 weather protection 	
Weight	15 kg	

Additional info	<ul style="list-style-type: none"> • duty cycle continuous • steel rotor with vanes • integral bypass valve • IP55 weather protection
Weight	15 kg



Viscosity Chart - page 97

! Motors and switches are not explosion proof. Operation with fuels of flash point below +55°C may cause explosions. None of the pumps shown on this page are suitable for use with petrol.

Light Oil & Diesel Pumps

Mains Operated 220v



Motors and switches are not explosion proof. Operation with fuels of flash point below +55°C may cause explosions. None of the pumps shown on this page are suitable for use with petrol.



Model No.	W40	Category B
Price	£295.00	
Voltage	220v AC	
Capacity	40 litres / minute	
Fluid	diesel - gas oil - kerosene - hydraulic oil	
Hose length	4 metres with manual trigger nozzle	
Inlet	1 metre flexible tube with filter	
Additional info	<ul style="list-style-type: none"> • inlet hose • inlet strainer • 2" BSP 	
Weight	4.2 kg	



Model No.	EPD60W	Category B
Price	£479.00	
Voltage	230v AC single phase	
Capacity	60 litres / minute	
Fluid	diesel - gas oil - kerosene - light oils	
Hose length	3 metres with manual trigger nozzle	
Inlet	1 metre flexible tube with filter	
Additional info	<ul style="list-style-type: none"> • maximum viscosity 80 cSt • duty cycle 30 minutes • IP55 weather protection • wall-mounted frame • 4-digit mechanical totaliser • 1" BSPF 	
Weight	16.5 kg	



Model No.	EPD60	Category B
Price	£118.00	
Capacity	60 litres / minute	
Weight	8 kg	
Model No.	EPD80	Category B
Price	£170.00	
Capacity	80 litres / minute	
Weight	13 kg	
Common Specification		
Voltage	230v AC single phase	
Fluid	diesel - gas oil - kerosene - light oils	
Inlet/outlet:	1" / 1" BSPF	
Additional info	<ul style="list-style-type: none"> • maximum viscosity 80 cSt • duty cycle continuous • steel rotor with vanes • integral bypass valve • 100-micron filter 	



Battery Operated 12/24v DC



Model No.	BK12	Category B
Price	£194.00	
Voltage	12v DC	
Capacity	35 litres / minute	
Fluid	diesel - gas oil	
Hose length	4 metres with manual trigger nozzle	
Inlet	flexible tube with filter	
Additional info	<ul style="list-style-type: none"> • duty cycle 30 minutes • 1" BSPF 	
Weight	4.2 kg	



Model No.	EPDB5012	Category B
Price	£310.00	
Voltage	12v DC	
Model No.	EPDB5024	Category B
Price	£310.00	
Voltage	24v DC	
Common Specification		
Capacity	50 litres / minute	
Fluid	diesel - gas oil	
Hose length	4 metres with manual trigger nozzle	
Inlet	flexible tube with filter	
Additional info	<ul style="list-style-type: none"> • duty cycle continuous • 1" BSPF 	
Weight	14.7 kg	



Model No.	EPDB4012W	Category B
Price	£394.00	
Voltage	12v DC	
Capacity	40 litres / minute	
Fluid	diesel - gas oil	
Hose length	3 metres with manual trigger nozzle	
Inlet	1 metre flexible tube with filter	
Additional info	<ul style="list-style-type: none"> • wall-mounted frame • duty cycle 30 minutes • IP55 weather protection • 4-digit mechanical totaliser • 1" BSPF 	
Weight	16 kg	

12/24v General Transfer Pump

GULPER EPHD1552 & EPHD1554

Best value 12v/24v DC pump for slurry transfer, sump cleaning, drum transfer & emptying, groundwatre removal, drain dewatering and cleaning, spill cleanup and oil collection.



Crocodile clips can be supplied as an optional extra: £2.75 / pair

Model No.	EPHD1552	Category C
Price	£129.30	
Voltage	12v DC	
Model No.	EPHD1554	Category C
Price	£129.30	
Voltage	24v DC	
Capacity	15 litres / minute	
Fluid	water ~ contaminated water ~ seawater ~ small solids in suspension ~ diesel ~ antifreeze ~ light to medium oils	
Hose connections	19 mm	
Suction lift / discharge head	4 metres / 3 metres	
Wetted parts	nylon ~ acetal ~ EPDM ~ NBR ~ SS ~ brass ~ alu	
Additional info	<ul style="list-style-type: none"> duty cycle 30 minutes IP55 weather protection self-priming up to 10 feet virtually unblockable handles small solids runs dry without damage pumps air/liquid mixture no filter required 360° adjustable rotating head allows flexible installation 	
Weight	1.75 kg	

FLOWMETERS, FILTERS & HOSES

Diesel/Light Oil Meters



Model No.	FM400	Category C
Price	£74.95	
Inlet/outlet	1/2" / 1/2" BSPF	
Flowrate	up to 30 litres / minute	
Fluid	diesel ~ light / medium oils ~ antifreeze ~ ATF	
Accuracy	+/- 0.5%	
Max. WP	70 bar	
Dimensions	W 90 x H 80 x D 60 mm	
Additional info	<ul style="list-style-type: none"> can be set to litres or gallons 4-digit resettable display 6-digit continuous totaliser 	
Weight	500 g	

Model No.	FM44	Category C
Price	£94.95	
Inlet/outlet	1" / 1" BSPF	
Flowrate	up to 120 litres / minute	
Fluid	diesel ~ light oils ~ kerosene	
Accuracy	+/- 3%	
Max. WP	10 bar	
Dimensions mm	W 176 x H 155 x D 128	
Additional info	<ul style="list-style-type: none"> 4-digit resettable display 8-digit continuous totaliser 	
Weight	2 kg	



Adblue Flowmeter



Model No.	FMK24	Category C
Price	£69.95	
Inlet/outlet	1" bspm / 1" bspm	
Flowrate	12 - 120 litres / minute	
Fluid	Adblue ~ DEF ~ urea ~ antifreeze ~ water ~ windscreen wash	
Accuracy	+/- 1%	
Max. WP	0.18 MPa	
Dimensions mm	75 w x 55 d x 100 h	
Additional info	<ul style="list-style-type: none"> swivel hose fitting trigger can be latched open 	
Weight	250 g	

Fuel Filter



Model No.	FF02	Category C
Price	£35.00	
Operation	gravity ~ hand / air / electric pump	
Inlet/outlet	1" / 1" BSPF	
Fluid	petrol ~ diesel ~ kerosene	
Filter	10 micron (replaceable)	
Max. flowrate	up to 100 litres / minute	
Max. WP	up to 100 psi	
Additional info	<ul style="list-style-type: none"> water drain cock replaceable clear plastic bowl 	
Weight	700 g	
Model No.	FFE10	Category C
Price	£9.95	
Filter	10 micron replacement fuel filter element only	

Hoses

Hose available in any desired length and in three types of material to suit your requirements, as below.

Model No.	HOSE CB	Category B
Price	£6.00 per metre	
Reinforced nylon clear braided hose: 8, 13, 19, 25, 32 & 38 mm bore (i/d)		

Model No.	HOSE OGS	
Price	£15.00 per metre	
Oil/grease/solvent impervious hose: 19, 25 & 32 mm bore (i/d)		

Model No.	HOSE PL	
Price	£20.00 per metre	
Petrol impervious hose: 19, 25 & 32 mm bore (i/d)		

Hoses, Hose Kits & Gravity Feed Kits



1" hose kits for diesel and oil pumps.

Model No. EPHKD
Price £85.00 **Category B**

Comprises 1.5 metres inlet hose with strainer - 2.5 metres outlet hose with manual trigger nozzle TNA

Model No. EPHKO
Price £77.00 **Category B**

Comprises 1.5 metres inlet hose with strainer - 2.5 metres outlet hose with bent tip nozzle



Hoses & Fittings. We can supply hose cut to length in three types: reinforced nylon, petrol-impervious and oil/grease/solvent-impervious. Hosetails, reducers, adaptors, elbows etc., are also available in plated steel, brass or malleable iron. Please contact our sales office for details and assistance.



Model No. GFK100
Price £75.00 **Category B**

Operation gravity feed kit 2 metre
Inlet/outlet 1" BSPM / TNA trigger nozzle
Fluid diesel only
Additional info extra hose available per metre
Weight 5 kg



Gravity feed kit for IBC's.

Model No. GFKA
Price £29.95 **Category B**

Operation gravity feed kit 3 metres
Inlet/outlet IBC adaptor / TNAD trigger nozzle
Flowrate up to 30 litres / minute
Fluid Adblue - petrol - diesel - water - light oils - weaker acids & alkalis
Material PP - SS - viton
Additional info

- swivel hose fitting
- trigger can be latched open

Weight 1 kg



NOZZLES

Oil Nozzles



Model No. TNO
Price £19.95 **Category C**

Operation low pressure
Inlet/outlet ½" BSPF swivel / 15 mm o/d
Fluid all oils
Max. WP up to 300 psi
Weight 580 g



Model No. TN30022
Price £51.95 **Category C**

Operation high pressure
Inlet/outlet ½" BSPF swivel / 18 mm o/d
Fluid all oils
Max. WP up to 3000 psi
Weight 650 g

Model No. TNK4
Price £24.95 **Category C**

Outlet ½" BSPF + ½" BSPM
Weight 500 g

Model No. TNK4SS
Price £34.95

Outlet rigid steel bent nozzle c/w 15 mm o/d non-drip tip
Weight 900 g

Model No. TNK4SR
Price £34.95 **Category C**

Outlet rubber & steel bent nozzle c/w 15 mm o/d non-drip tip
Weight 1 kg

Model No. TNK4SSF
Price £99.95 **Category C**

Flowmeter FM400 - see above for details
Weight 1.4 kg

Model No. TNK4SRF
Price £99.95 **Category C**

Flowmeter FM400 - see above for details
Weight 1.5 kg

Common Specification

Inlet ½" BSPF swivel
Flowrate up to 25 litres / minute
Fluid all oils
Max. WP up to 70 bar
Additional info

- can be latched open



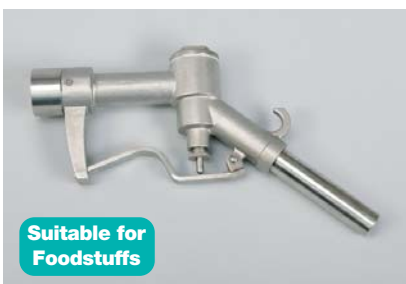
Petrol & Diesel Nozzles



Model No.	TNA	
Price	£13.95	Category C
Operation	manual trigger	
Inlet/outlet	1" BSPF swivel / 1" o/d	
Flowrate	up to 60 litres / minute	
Fluid	diesel	
Material	die-cast aluminium alloy	
Max. WP	5 bar	
Additional info	<ul style="list-style-type: none"> trigger can be latched open 	
Weight	750 g	



Model No.	TNP50U	
Price	£55.00	Category C
Operation	auto shut-off	
Inlet/outlet	3/4" BSPF swivel / 1" o/d	
Flowrate	up to 50 litres / minute	
Fluid	diesel - petrol (unleaded)	
Max. WP	0.5 to 3 bar	
Additional info	2-position latch	
Weight	1.1 kg	



Suitable for Foodstuffs

Model No.	TNSS	
Price	£89.95	Category C
Operation	manual trigger	
Inlet/outlet	3/4" BSPF swivel / 20 mm o/d	
Wetted parts	304SS - Teflon	
Flowrate	up to 40 litres / minute	
Fluid	corrosive chemicals - solvents - all oils - mineral oil - alcohols - sodium solutions - adblue - foodstuffs	
Material	die-cast stainless steel 304	
Max. WP	5 bar	
Additional info	trigger can be latched open	
Weight	1.2 kg	



Adblue Nozzles



Model No.	TNAD	
Price	£11.95	Category C
Operation	manual trigger	
Inlet/outlet	20mm i/d / 20mm o/d	
Flowrate	up to 30 litres / minute	
Fluid	Adblue - petrol - diesel - water - light oils - weaker acids & alkalis	
Material	PP - SS - viton	
Max. WP	0.5 MPa	
Additional info	<ul style="list-style-type: none"> swivel hose fitting trigger can be latched open 	
Weight	350 g	

Model No.	TN60A	
Price	£30.95	Category C
Inlet/outlet	3/4" BSPF / 15/16" o/d	
Flowrate	up to 60 litres / minute	
Weight	1.1 kg	
Model No.	TN80A	
Price	£44.95	
Inlet/outlet	1" BSPF / 1.1/8" o/d	
Flowrate	up to 80 litres / minute	
Weight	1.5 kg	
Model No.	TN120A	
Price	£84.95	
Inlet/outlet	1" BSPF / 1.1/8" o/d	
Flowrate	up to 120 litres / minute	
Weight	1.5 kg	

Common Specification

Operation	auto shut-off
Fluid	diesel - petrol (unleaded)
Max. WP	0.5 to 3 bar
Additional info	3-position latch



Model No.	TNADA	
Price	£69.95	Category C
Operation	auto shut-off trigger	
Inlet/outlet	3/4" bspf / 19mm o/d	
Flowrate	up to 45 litres / minute	
Fluid	Adblue - DEF - urea - water - chemicals	
Material	SS304 - viton	
Max. WP	0.18 MPa	
Additional info	<ul style="list-style-type: none"> 3-speed trigger latch 	
Weight	2.3 kg	

Accessories Swivels

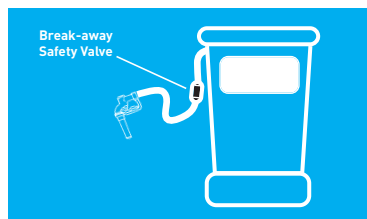


Model No.	TNS075	
Price	£11.00	Category C
Size	3/4" BSP male / female stainless steel 360 deg. swivel	
Weight	100 g	
Model No.	TNS100	
Price	£14.00	Category C
Size	1" BSP male / female stainless steel 360 deg. swivel	
Weight	200 g	



Break-away Safety Valves

These safety valves are designed to be fitted close to the pump, in-line in the fuel delivery hose, between the nozzle and the pump - see diagram. Whilst re-fuelling, if a driver leaves the nozzle in the filler neck of the vehicle and drives away, the valve will snap into two parts and both parts will shut off, keeping the fuel contained and reducing spillage to a minimum. (Note: Cannot be re-used after deployment.)



Model No.	TNBV075	
Price	£17.95	Category C
Inlet/outlet	3/4" / 3/4" BSPF	
Break force	300 lbs / 136 kg +/- 5%	
Flowrate	up to 60 litres / minute	
Weight	250 g	

Model No.	TNBV100	
Price	£21.95	
Inlet/outlet	1" / 1" BSPF	
Break force	360 lbs / 164 kg +/- 5%	
Flowrate	up to 120 litres / minute	
Weight	300 g	

Common Specification

Material	alu - Viton - SS - POM - PVC
Max. WP	up to 0.18 MPa
Additional info	<ul style="list-style-type: none"> one-time use only



Heavy duty, hi-viz plastic hand sprayers with viton seals. Suitable for a wide variety of industrial chemicals/degreasing agents and other liquids including water, fine oils, kerosene, chemicals & solvents compatible with low density polyethylene.

All sprayers in our range can be used for spraying plant protection chemicals and fertilizers as well as for washing machines and for disinfection. Spraying with lime and emulsions is possible due to all our devices being equipped with a specially designed, patented, MAROLEX mixer (preventing sedimentation), along with metal ball valves, reinforced hose and high-flow capacity pipes. Another important feature is a highly efficient pump placed outside the tank to avoid contact with aggressive, thick liquids and to make work more comfortable, removing the need for users to bend when pumping. Each element of our devices is precisely tested before final assembly and all parts are made from high quality, durable and chemical-resistant materials.

5PM50 & 5PM100 'MINI': Industrial & domestic mini trigger sprayers.

5PSBM & 5PSCM 'MASTER': Industrial & domestic hand-held pressure sprayers with pressure relief valve.

5PI05 - 5PI07 - 5PI09 - 5PI12 'INDUSTRY': Industrial pressure sprayers c/w inline filter, pressure relief valve, locking pump handle, 170cm PVC hose, shoulder strap, stainless steel telescopic lance & adjustable spray nozzle.

5PT12 - 5PT16 - 5PT20 'TITAN': Industrial & domestic knapsack sprayers for both right- and left-handed use c/w inline filter, pressure relief valve, 130cm PVC hose, stainless steel telescopic lance & adjustable spray nozzle. The lever can be adapted to either side of the sprayer to suit both right and left hand operators.

5PD12 'DIS.INFECTOR': Chemical sprayer to take care of disinfection and fight contamination & pollution c/w inline filter, pressure relief valve, locking pump handle, 170cm PVC hose, stainless steel lance & adjustable spray nozzle. All materials used in its' construction are designed for use with aggressive chemicals.

5PP12 'PROFESSIONAL PLUS': Chemical sprayer specially designed so it can be used for liming tree trunks, painting outside walls with water based paints and for shading the walls of greenhouses. Comes c/w pressure relief valve, stainless steel lance & adjustable spray nozzle. All materials used in its' construction are designed for use with paint and chemicals.

5PMX20: Industrial trolley pressure sprayer c/w pressure relief valve, 170mm dia. wheels, stainless steel telescopic lance & adjustable spray nozzle.

5PRX: Industrial battery knapsack pressure sprayer c/w pressure relief switch, stainless steel telescopic lance & adjustable spray nozzle, battery charger and harness – 12V 7.2Ah.

5PVX: Industrial trolley battery pressure sprayer c/w pressure relief valve, 170 mm dia. wheels, stainless steel telescopic lance & adjustable spray nozzle and battery charger – 12V 7.2Ah.

Model No.	Name	Capacity Litres	H x W x D mm	Nett Wt KG	Pressure MPa	Category C Price
5PM50	MINI 0.5	0.5	220 x 100 x 100	0.10	--	£2.30
5PM100	MINI 1.0	1.0	275 x 115 x 115	0.12	--	£2.60
5PSAM	MASTER 1.0	1.0	280 x 130 x 130	0.42	0.4	£10.65
5PSBM	MASTER 1.5	1.5	310 x 130 x 130	0.48	0.4	£11.95
5PSCM	MASTER 2.0	2.0	340 x 130 x 130	0.52	0.4	£12.75
5PSDM	MASTER 3.0	3.0	350 x 150 x 150	0.57	0.4	£13.75
5PI05	INDUSTRY 5	5.0	415 x 220 x 220	1.8	0.4	£45.00
5PI07	INDUSTRY 7	7.0	470 x 220 x 220	2.0	0.4	£46.00
5PI09	INDUSTRY 9	9.0	570 x 220 x 220	2.2	0.4	£48.00
5PI12	INDUSTRY 12	12.0	600 x 220 x 220	2.4	0.4	£49.50
5PD12	DISINFECTOR	12.0	600 x 220 x 220	2.2	0.4	£36.00
5PP12	PROFESSIONAL 12	12.0	835 x 220 x 220	2.4	0.4	£59.95
5PT12	TITAN 12	12.0	610 x 400 x 140	3.6	0.3	£65.00
5PT16	TITAN 16	16.0	610 x 410 x 170	4.2	0.3	£70.00
5PT20	TITAN 20	20.0	610 x 410 x 200	4.7	0.3	£72.00
5PMX20	MX-20	20.0	800 x 400 x 360	4.4	0.4	£89.95
5PRX	RX electric	12.0	640 x 400 x 220	8.2	0.38	£235.00
5PVX	VX electric	20.0	930 x 400 x 370	11.5	0.38	£235.00

'MASTER' Extensions

5PSX15	15cm extension for 'Master' sprayers	£4.50
5PSX30	30cm extension for 'Master' sprayers	£4.70

Spares/Repair Kits

5PZ08MV	Repair kit (Viton) for 'Master' sprayers	£5.00
5PZ1215V	Replacement nozzle for 'Master' sprayers	£5.00
5PZ09J5	5-piece nozzle kit (Viton) for 'Industry' & 'Titan' sprayers	£5.00
5PZ09J7	7-piece nozzle kit (Viton) for 'Industry' & 'Titan' sprayers	£7.50

All of the spares are available for all models. Please contact us for relevant parts lists and prices.



Master Extensions



Factories
Warehouses
Garages
Workshops
Construction sites
Depots
Stations
Laboratories
Houses
Inventory buildings
Hospitals
Sites at risk of fire, flood or catastrophe
Farms
Livestock
Campuses
Colleges
Universities
Schools
Campsites
Greenhouses
Gardens
Terraces
Balconies
Orchards
Nurseries
Plantations
Flowerbeds
Water
Solubles
Chemicals
Solvents
Degreasers
Light oils
Diesel
Kerosene
Thinners
Weedkillers
Fertilizers
Insecticides
Herbicides
Fungicides
Limewash
Detergents
Disinfectants
Cleaning
Paints



TITAN



Factories
Warehouses
Garages
Workshops
Construction sites
Depots
Stations
Laboratories
Houses
Inventory buildings
Hospitals
Disaster sites
Farms
Work housing
Campuses
Colleges
Universities
Schools
Campsites
Greenhouses
Gardens
Terraces
Balconies
Orchards
Nurseries
Plantations
Flowerbeds
Water
Solubles
Chemicals
Solvents
Degreasers
Light oils
Diesel
Kerosene
Thinners
Weedkillers
Fertilizers
Insecticides
Herbicides
Fungicides
Limewash
Detergents
Disinfectants
Cleaning
Paints

MASTER



RX



PROFESSIONAL



DIS.INFECTOR



VX



INDUSTRY



MX20



BARREL TAPS & VENTS

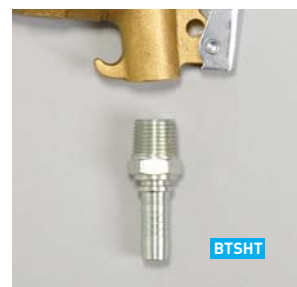
Barrel Taps



Barrel Taps 3/4" BSP

Category D

Model No.	Operation	Main Body Material	Seal Material	Additional Features	Weight	Price
BTP	manual	HDPE	EPDM	--	40 g	£1.35
BTP0	manual	LDPE	--	--	50 g	£0.98
BTP0A	manual	LDPE	--	comes with 2" BSPM x 3/4" BSPF adaptor	55 g	£1.75
BTP1	manual	LDPE	--	--	50 g	£1.45
BTA	manual	alu	nitrile	lockable	100 g	£11.95
BTB	manual	brass [nickel plated]	--	lockable - hose tail to fit 3/4" bore hose	250 g	£17.95
BTH	manual	brass [nickel plated]	NBR/Teflon	fits 1/2" & 3/4" bsp hole - hose tail to fit 1/2" bore hose	300 g	£12.95
BTSA	self-closing	alloy	nylon	lockable	150 g	£5.50
BTSAF	self-closing	alloy	nylon	lockable - flame arrestor	150 g	£6.75
BTSB1	self-closing	brass	Teflon	lockable - flame arrestor	600 g	£17.95
BTSB2	self-closing	brass	Teflon	lockable - flame arrestor - rotatable spout	650 g	£19.95
BTSSS	self-closing	SS (304)	Teflon	lockable - flame arrestor - rotatable spout	650 g	£62.95
BTSSE	flexi-extension	SS	PTFE	for BTSB1 - BTSB2 - BTSSS	100 g	£13.95
BTSHT	hose tail 1/2"	plated steel	--	for BTSB1 - BTSB2 - BTSSS	80 g	£5.90



Drip trays - see pages 16-17



Taps for Poly Drums

Category E

Tap and cap combined to suit all types of plastic/poly drums & jerry cans - including 10, 20, 25, 50, 60 & 210 litre capacity containers. Made from polypropylene with polyethylene gasket.

Model No.	Thread form	Weight	Price
JCPT38	DIN 51 - 53 mm	50 g	£2.95
JCPT56	56 x 4 - Trisure	60 g	£2.95
JCPT64	DIN 61 - 60 mm - IBC - Plysu - Valerex - Dynoplast	60 g	£2.95
JCPT71	DIN 71 - Mauser	60 g	£2.95



BTP2



BT2AV



BT2SV



BT2BV

Barrel Taps 2" BSP

Model No.	Operation	Main Body Material	Seal Material	Additional Features	Weight
BTP2	manual	LDPE	EPT	large bore - empties 210 litre drum in 3 minutes	250 g
BT2AV	self-closing	alu	NBR	simple push-button operation	250 g
BT2SV	manual	steel / cast iron	--	lockable	2.3 kg
BT2BV	self-closing	brass	PE	--	3.1 kg

Category D

Price
£11.80
£9.95
£59.00
£83.95



BTT2CE



BTT2C



BTT2CL



BTT2CS



BTT2GM



BTT2A



Plugless / Molasses Taps

Model No.	Operation	Main Body Material	Seal Material	Additional Features	Weight	Category C Price
2" BSP						
BTT2CE	manual	cast iron	brass	--	1.6 kg	£26.50
BTT2C	manual	cast iron	brass	lockable	1.5 kg	£43.00
BTT2CL	manual	cast iron	brass	long handle - lockable	2.4 kg	£59.95
BTT2CS	self-closing	cast iron	brass	long handle - lockable	3.3 kg	£75.00
BTT2A	manual	aluminium	brass	lockable	800 g	£51.00
BTT2GM	manual	gun metal	brass	--	2.1 kg	£165.00
3/4" BSP						
BTT34CE	manual	cast iron	brass	--	600 g	£15.95
BTT34C	manual	cast iron	brass	lockable	700 g	£26.00
BTT34A	manual	aluminium	brass	lockable	350 g	£34.00
BTT34CS	self-closing	cast iron	brass	lockable	650 g	£41.00



BTT34CE



BTT34A

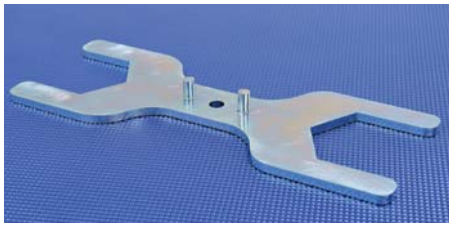


BTT34CS



BTT34C

Drum Tap Wrench



Model No.	DK2	
Price	£9.95	Category D
Material	plated steel	
Product info	a specially designed drum tap & drum opening wrench - fits all 2" drum taps & standard drum closures	
Weight	800 g	

Drum Sight Gauge

Model No.	DG100	
Price	£29.95	Category B
Length	56 cm	
Material	cast iron - plated steel - glass - NBR	
Product info	<ul style="list-style-type: none"> • 3/4" BSPM • glass tube will not discolour • BTSA barrel tap included • air breather at top 	
Weight	1 kg	



BARREL ADAPTORS



Barrel Adaptors

Category A

Threaded plastic adaptors to convert drums with metric threads or thread forms other than the standard 2" bsp, to a 2" bsp male thread to allow the use of barrel pumps and taps.

Model No.	Drum Type	Specification	Colour	Weight	Price
ADDIN2XM	DIN61	DIN61 male to 2" BSP male	BLACK	50 g	£5.35
ADDIN61	DIN61	DIN61 female to 2" BSP female	YELLOW	50 g	£2.95
ADDIN71	DIN71	DIN71 female to 2" BSP female	BROWN	50 g	£5.20
ADM	MAUSER	70 x 6 male (Mauser) to 2" BSP female	BLUE	50 g	£2.95
ADTS	TRISURE	56 x 4 male (Trisure) to 2" BSP female	ORANGE	50 g	£2.95
ADIBC	IBC DIN61	DIN61 female to 1" BSP male	BLACK	50 g	£8.95
ADUSIBC	IBC DIN61	DIN61 male to 2" BSP female	GREY	50 g	£5.65

Barrel Adaptors/Accessories

Model No.	Description	Price
ADOR	O' ring for all above adaptors when used in conjunction with drum taps	£2.00
AD234P	2" BSPM x 3/4" BSPF plastic reducer to allow 3/4" drum taps to be used in 2" apertures	£1.50
AD234	2" BSPM x 3/4" BSPF cast iron reducer to allow 3/4" drum taps to be used in 2" apertures	£16.00
DKAD	drum wrench designed to safely fit & remove adaptors & standard drum closures	£10.95

Vents



Model No.	125	
Price	£25.00	Category C
Material	brass - NBR	
Size	2" BSPM	
Pressure info	< 3 psi: will not open 3-8 psi: may open > 8 psi: will open	
Additional info	<ul style="list-style-type: none"> • vent aperture can be left open if required • ideal for use with 3/4" drum taps 	
Weight	1.5 kg	

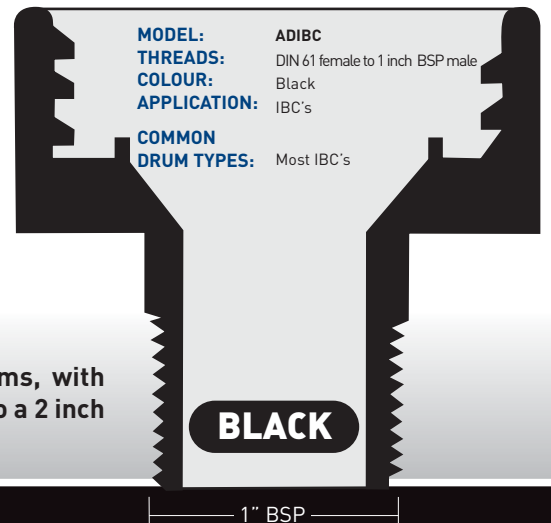
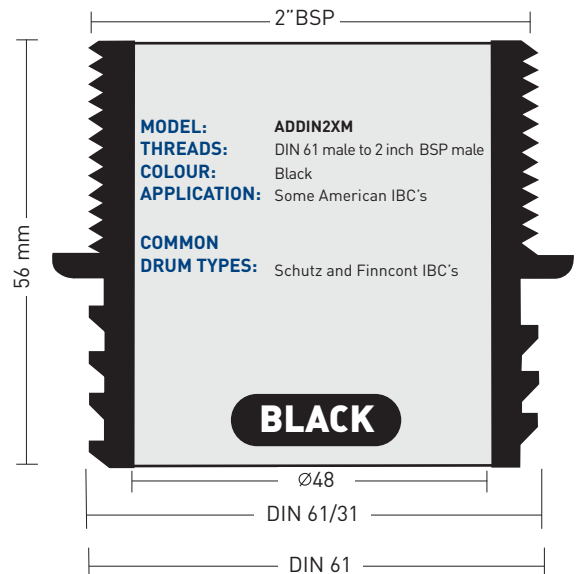
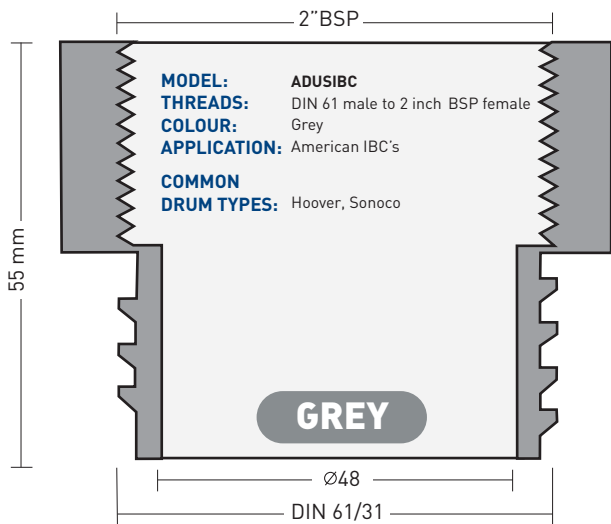
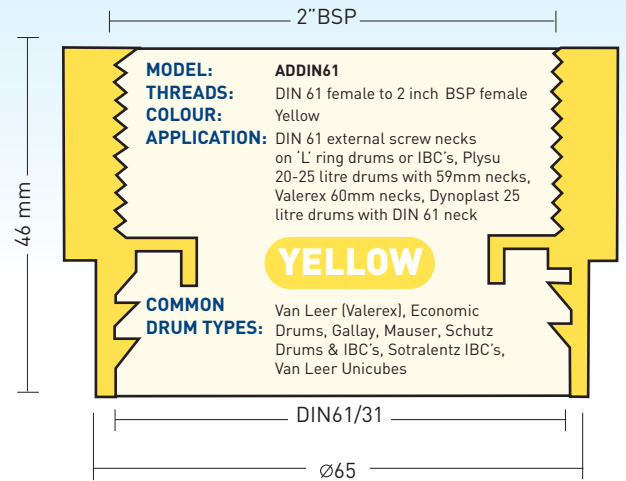
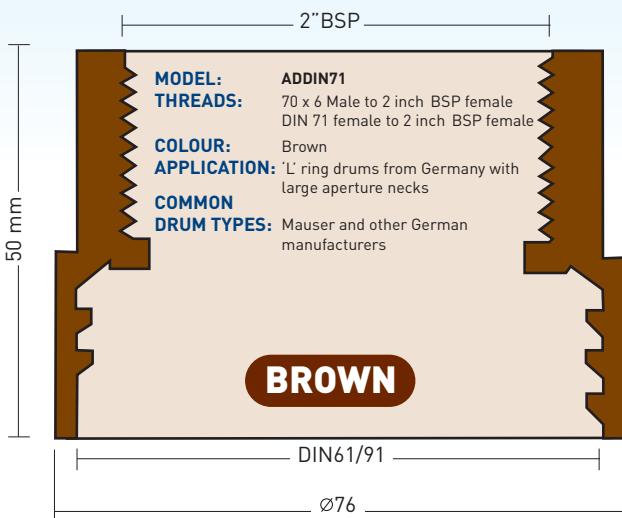
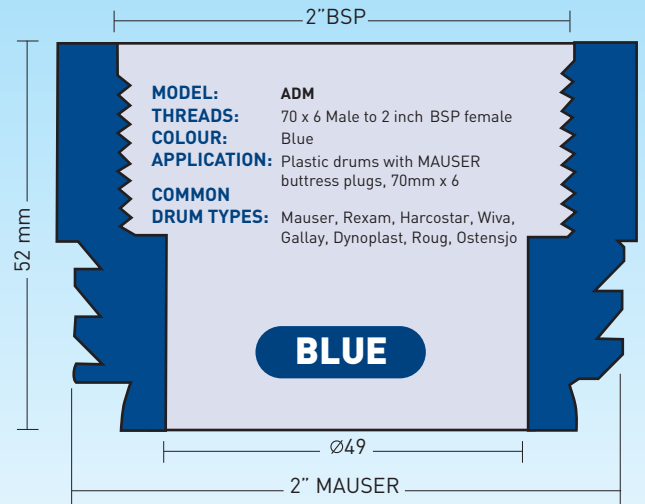
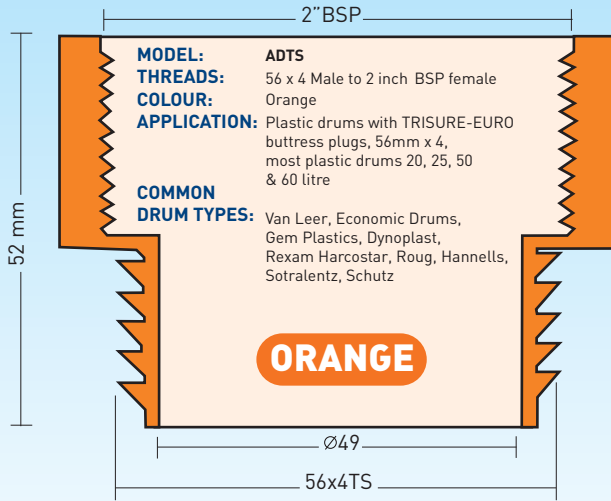
Model No.	135	
Price	£265.00	
Material	brass	
Size	2" BSPM	
Additional info	<ul style="list-style-type: none"> • only for use in upright position • vented pressure release • integral flame arrestor • screw cap filler 	
Weight	1 kg	



See page 95 for more details.

DKAD

BARREL ADAPTORS



See pages 94-95 for full details

Drawings to scale

This range of threaded plastic adaptors can be used where drums, with threads other than the standard 2 inch b.s.p., need to be converted to a 2 inch b.s.p. thread to facilitate the use of standard barrel pumps and taps.

FUNNELS

Plastic Funnels

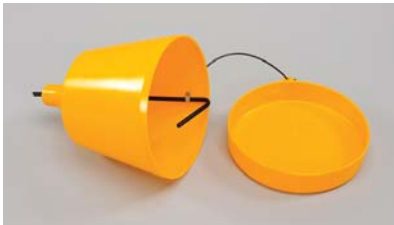
Model No.	Description	Category E
Laboratory Funnels		Price
Light duty funnels made from PP which will not dent or crack.		
PFCL08	3" / 75 mm dia.	£1.25
PFCL10	4" / 110 mm dia.	£1.50
PFCL12	5" / 120 mm dia.	£1.80
PFCL16	6" / 152 mm dia.	£2.35
PFCL24	9" / 240 mm dia.	£2.90



Model No.	Description	Category D
Medium duty funnels made from MDPE with high resistance to all fluids. Come c/w removable strainer.		
Plain Round Rim		Price
PFCS4	Set of 4 mini funnels 50, 70, 100 & 110 mm dia.	£1.80
PFC6CS	6" / 160 mm dia. c/w rigid cranked spout	£2.60
PFC8	7 1/2" / 195 mm dia. c/w flexispout	£2.95
PFC9	9" / 235 mm dia. c/w flexispout	£3.75
FP10L	10" / 254 mm dia. c/w lockable lid	£8.95



'Smart' Safety Funnel



This large 8 litre capacity 'smart funnel' prevents overfilling of barrels. Due to the breather tube design, trapped air stops the liquid from filling to the top of the barrel. It leaves just enough room to add 8 more litres to the barrel, which is the capacity of the funnel. The integral 2" BSP thread ensures secure attachment to the barrel.

Model No.	FP11L	
Price	£14.95	Category C
Body material	PP - PE	
Dimensions mm	270 H x 285 dia.	
Thread	2" BSP for 25 / 120 / 210 litre drums	
Weight	1.1 kg	



Model No.	Description	Category F
Garage Funnel		Price
Heavy duty rectangular garage funnel made from HDPE. Removable metal water filter included.		
FPG	10" x 7" / 254 mm x 178 mm	£3.30
FFIL	replacement / spare filter for FPG	£0.95



Model No.	Description	Category C
Heavy duty funnels made from HDPE which will not dent or crack. Removable strainer & flexispout included.		
Antisplash Rim		Price
PF4	4" / 102 mm dia.	£3.55
PF6	6" / 152 mm dia.	£4.65
PF9	9" / 228 mm dia.	£6.50

Overprinting service available at extra cost. Please contact our sales office with details of your logo for a quotation.

Overprinting Service Available.



Drum Top Funnel & Cover



Model No. FPD210

Drum Top Funnel

Price	£35.95	Category C
Operation	heavy duty drum top funnel with lockable lid	
Material	HDPE	
Dimensions	25" / 640 mm dia. o/d x 7" / 180 mm deep	
Weight	2.5 kg	



Model No. DCP45

Drum Top Cover

A drum top cover for 210 litre drums made from chemical resistant HDPE. Returns drips and spills safely and cleanly back into the drum. Suitable for 210 litre steel & poly drums.

Price	£19.95	Category D
Dimensions mm	70 H x 590 dia.	
Weight	1 kg	



PRICE DROP

Metal Funnels

Heavy duty steel funnels with a 'Dacromet' coating finish. Removable brass strainer with plastic rim included with all models.



FRR06/08



FR06FH

Model No.	Description	Category E Price
Plain Round Rim - Standard Funnels		
FR06FH	6" / 152mm c/w screw-on plastic spout & handle	£6.95
FRR06	6" / 152mm c/w screw-on metal spout	£7.95
FRR08	8" / 203mm c/w screw-on metal spout	£10.95



FRR06/08

BEST QUALITY

PRICE DROP



Model No. FRE2

Category C

Angle - Fill Funnels

Light duty economy metal funnels with integral strainer

Price £9.95 / pair

Dimensions 6" / 152 mm dia.

Weight 650 g

- Additional info
- angle-fill body
 - one has standard short rigid spout
 - one has 450 mm flexispout

Lidded Safety Funnels

Model No.	F2	Category C
Price	£29.95	
Body material	steel	
Dimensions mm	300 x 130 deep	
Thread	2" BSP for 25 / 120 / 210 litre drums	
Strainer	removable strainer	
Weight	2 kg	



Model No. 120

Brass spout & thread prevents risk of sparks.

Price	£64.95	Category C
Material	heavy duty tinplate - brass	
Diameter	10" / 254 mm	
Thread	2" BSP	
Weight	2 kg	
Additional info	<ul style="list-style-type: none"> • lid prevents vapour release and accidental contamination of drum contents • integral fusible link • integral strainer • flame arrestor 	



The lid has a spring-loaded fusible link which, if the contents catch fire, will melt at a temp of 57°C causing lid to slam shut and extinguish the fire.

MEASURES

Plastic Measures

Light Duty

Category D

Light duty transparent measures graduated in millilitres for accurate fluid dispensing. Sizes: 100, 250 & 500ml and 1, 2, 3 & 5 litre. Made from HDPE.

Model No.	Description	Price
POM57	Set of 7	£14.95

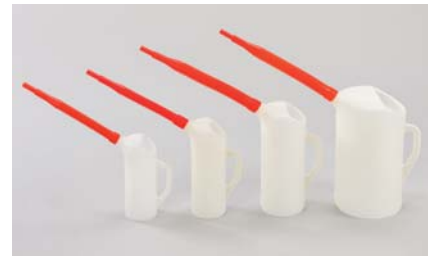


Measures can be purchased individually in the following sizes:

POM01	100ml measure	£0.65
POM02	200ml measure	£1.00
POM05	500ml measure	£1.60
POM10	1.0L measure	£2.00
POM20	2.0L measure	£3.00
POM30	3.0L measure	£3.50
POM50	5.0L measure	£5.00

Model No. Description Category E

Medium duty		Price
Measures made from MDPE. Graduated in litres & pints.		
PMU05	0.5 litre	£1.95
PMU10	1.0 litre	£2.45
PMU20	2.0 litre	£2.95
PMU50	5.0 litre	£4.75
PMUS4	set of 4 above	£11.95



Heavy duty

Measures made from HDPE. Lids can be added as an optional extra.

PM10	1.0 litre	£3.85
PM20	2.0 litre	£4.50
PM20L	2.0 litre with lid	£5.10
PM30	3.0 litre	£5.90
PM30L	3.0 litre with lid	£6.50
PM50	5.0 litre	£7.99
PM50L	5.0 litre with lid	£8.60



Overprinting Service Available.



Overprinting service available at extra cost. Please contact our sales office with details of your logo for a quotation.

Plastic Measures - Heavy Duty

OIL CANS & SAMPLERS

Model No. Description Category C
Heavy duty oil/fluid dispensing cans made from HDPE.

		Price
OMC06	6 litre	£7.50
Weight	600 g	
OMC10	10 litre	£9.95
Weight	800 g	
Features	<ul style="list-style-type: none"> • long delivery spout for easy access • two handles for controlled pouring • drip & vapour stop cap on spout • large 55 mm dia. filling aperture with screw cap • graduated scale 	



Sample Squeeze Bottles



Model No.	Capacity	Pack Size	Wetted Parts	Price	Category C
SQ01	500	3	PE	£2.99	
SQ125	125	2	PE - brass	£2.90	
SQ250	250	2	PE - brass	£3.30	
SQ500	500	2	PE - brass	£3.99	
SQSET	Set of 6 comprising 2 x SQ125, 2 x SQ250 & 2 x SQ500			£9.65	



General Purpose Dispenser



Model No.	GPD	Category B
Price	£5.99	
Capacity	1.0 litre	
Wetted parts	PE - alu - nylon - NBR	
Fluid	oils - non-corrosive solvents - degreasers - detergents - soaps - ATF - brake fluid - kerosene - water	
Applications	topping-up difficult to access apertures, controlled re-filling of small amounts of fluid, controlled dispensing on to cleaning cloths & brushes, etc.	
Weight	350 g	

Oil Cans



Oil Cans - Metal Body Economy

Model No.	Capacity cc	Spout	Canister	Price	Category C
MCE12F	120	flexible	blue	£2.49	
MCE12R	120	rigid	red	£2.49	
MCE20F	200	flexible	blue	£2.89	
MCE20R	200	rigid	blue	£2.89	
MCE20RB	200	rigid with brush	blue	£4.40	
MCE35F	350	flexible	blue	£3.20	
MCE35R	350	rigid	red	£3.20	
MCE50F	500	flexible	red	£3.99	
MCE50R	500	rigid	red	£3.99	



Oil Cans - Metal Body Deluxe

Model No.	Capacity cc	Spout	Canister	Price	Category C
MC1	150	rigid	metal	£4.00	
MC2	225	flexible	metal	£4.50	
MC3	350	flexible	metal	£4.80	
MC4	500	flexible	metal	£6.20	



Oil Cans - Plastic Body

Model No.	Capacity cc	Spout	Canister	Price	Category C
PC1	150	rigid	plastic	£3.75	
PC2	225	rigid	plastic	£3.85	
PC3	350	rigid	plastic	£4.15	



High volume goods
See page 85
for carriage charges

JERRY CANS

Metal Jerry Cans

A range of traditional mild steel jerry cans painted externally and coated internally for fuel and water resistance. All sizes are manufactured to UN specification, approval ref.: 3A1/Y/100/D/BAM 12877-VP Suitable for water, petrol, diesel, solvents, chemicals, etc.

The range conforms to PCR regulations 2014.



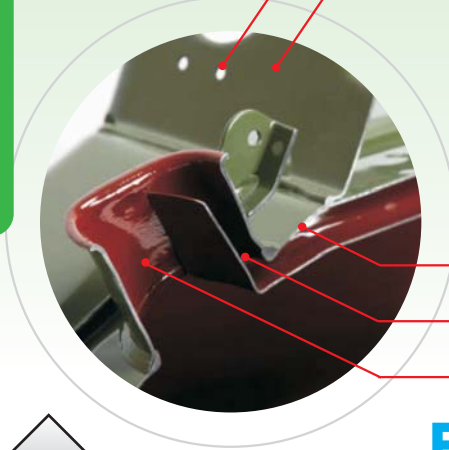
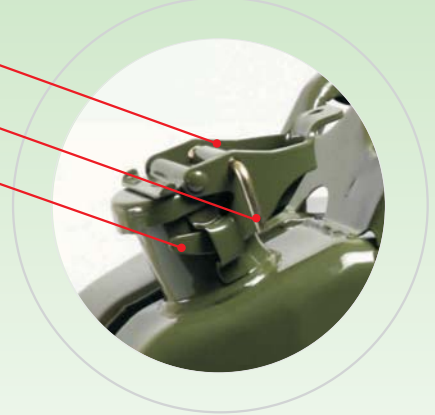
Date stamp on the cap

Patented locking pin

Bayonet closure

Powder coated body

Holes for pourer clip



0.9mm steel

Wide breathing channel

Petrol resistant internal paint

BEST QUALITY

PRICE DROP

HVC page 85



The cans are made of 0.9mm steel and to prevent internal rusting the can is lined with petrol resistant alkyd-ammonia based paint. The outer coat is an anti-corrosion powder coating finish. Other features include:

- internationally patented locking pin gives additional security against accidental opening
- bayonet closure is completely leak-proof with the can in any position
- wide channel breather ensures 'anti-glug' pouring and enables emptying in less than 25 seconds
- UN number approval certifies compliance with Dangerous Goods Transportation regulations
- pre-drilled holes in handle allow pouring spout bracket to be attached securely with screws
- date stamp on cap shows year & month of production

Model No.	JC05A	
Price	£15.95	Category E
Capacity	5 litre	
Dimensions mm	120 x 230 x 320	
Weight	1.7 kg	

Model No.	JC10A	
Price	£18.95	Category E
Capacity	10 litre	
Dimensions mm	165 x 280 x 345	
Weight	3.1 kg	

Model No.	JC20A	
Price	£19.95	Category E
Capacity	20 litre	
Dimensions mm	165 x 345 x 470	
Weight	4.3 kg	



Model No. JCSF
Price £4.95 **Category E**
Description • flexible clamp-on pouring spout
 • 280 mm long
 • integral gauze filter
Weight 300 g

Model No. JCSR
Price £3.95 **Category E**
Description • rigid clamp-on pouring spout
 • 160 mm long
 • anti-glug air tube
Weight 400 g



Model No. JCSU
Price £6.50 **Category E**
Description • universal clamp-on pouring spout
 • 220 mm long
 • 12 mm o/d spout end reducer for small apertures
 • anti-glug air tube
 • integral gauze filter
 • comes c/w bracket & screws for attaching permanently to jerry can
Weight 300 g



Model No. JCSFA
Price £5.95 **Category C**
Description • flexible clamp-on pouring spout
 • 330 mm long
 • integral gauze filter
 • anti-glug air tube
Weight 350 g



JCS - Replacement jerry can seal for all bayonet-cap jerry cans.
Price £1.00 **Category S**

JERRY CAN PUMPS - PAGE 21



NEW RANGE

Made to the same specification as the traditional bayonet cap cans, we are able to offer a new, unique range of jerry cans with a 45 mm screw cap aperture. The cap is fitted with a strong magnet to prevent it being put down and lost.

Category E

Model No.	Capacity litre	Price
JC05AS	5	£16.95
JC10AS	10	£19.95
JC20AS	20	£20.95



All sizes of jerry can are available in red



Model No. JCSS
Price £5.95 **Category C**
Description • flexible screw-on pouring spout for all screw-cap jerry cans
 • 300 mm long
 • integral gauze filter
 • anti-glug air tube
Weight 250 g



Plastic Jerry Cans & Bottles



Plastic Bottles Category B

Made from natural (opaque) HDPE. Available ONLY in carton quantities. Note: this range does not carry UN approval.

Model No.	Description	Carton Quantity	Cap Size	Price per carton
JCPB05	500 ml	50	25 mm	£30.00
JCPB10	1.0 litre	50	25 mm	£36.00
JCPB25	2.5 litre	25	38 mm	£37.00
JCPB50	5.0 litre	20	38 mm	£33.00



Plastic Jerry Cans

Category E

Made from HDPE grade 5030XP to UN specification 3H1/Y1.9200. Each size has integral moulding patterns to allow multi-stacking. Fully approved food grade containers.

Ref	Capacity / Description	Cap Size	Dimensions H x D x W	Weight	Price
JCP05	5 litre / screw cap	DIN 51 (53 mm)	255 x 146 x 193 mm	250 g	£2.95
JCP10	10 litre / screw cap	DIN 51 (53 mm)	322 x 194 x 226 mm	450 g	£4.50
JCP10T	10 litre / tap	DIN 51 (53 mm) tap	322 x 194 x 226 mm	500 g	£7.95
JCP25	25 litre / screw cap	DIN 61 (60 mm)	470 x 245 x 294 mm	1.2 kg	£7.75
JCP25T	25 litre / tap	DIN 51 (53 mm) tap	470 x 245 x 294 mm	1.25 kg	£10.95
JCPT38	tap only	DIN 51 (53 mm) tap	n/a	50 g	£3.50
JCPT64	tap only	DIN 61 (60 mm) tap	n/a	50 g	£3.50

HVC
page 85

DRUMS

Plastic & Steel Drums



Plastic Drum

210 litre L-ring blue plastic drum c/w 2 x 2" BSP screw caps. 940 mm high x 600 mm dia.

Model No.	D210P	Category D
Price	£52.00	
weight empty	8 kg	



Steel Drums

Category D

Model No.	D25
Price	£24.95
Capacity	25 litre
Aperture	2" & 3/4" BSP screw caps
Dimensions	470 mm high x 280 mm dia.
Weight	2 kg

Model No.	D210
Price	£95.00
Capacity	210 litre
Aperture	2" BSP & 3/4" screw caps
Dimensions	890 mm high x 580 mm dia.
Weight	16 kg
Material	steel painted externally

Model No.	D210LH
Price	£125.00
As per D210 but with detachable lid as shown.	



High volume goods
See page 85 for carriage charges

IBC Container 1000 Litre

Mauser 1000 litre (275 gall) capacity IBC UN approved.
Made from 1.4mm thick HDPE in steel cage on a plastic pallet.
IBC Category A

Model No.	D1000
Price	£250.00
Capacity	1000 litre
Inlet Aperture	150 mm
Outlet Aperture	DN50 (2") butterfly valve - DIN61 thread
Dimensions mm	1200 h x 1000 w x 1150 l
Weight	61 kg



Gravity feed kit for IBC's.

Model No.	GFKA
Price	£29.95
Category	B
Operation	gravity feed kit 3 metres
Inlet/outlet	IBC adaptor / TNAD trigger nozzle
Flowrate	up to 30 litres / minute
Fluid	Adblue - petrol - diesel - water - light oils - weaker acids & alkalis
Material	PP - SS - viton



Additional info

- swivel hose fitting
- trigger can be latched open

Weight



IBC adaptor available - see model no. ADUSIBC on page 45
Barrel taps also available - see page 44

Carriage charges - page 85

MANUAL & MECHANICAL HANDLING

DRUM TROLLEYS, LIFTERS & HANDLERS

Drum Type - Quick Reference Guide

IGE Ref	Steel drum	Poly drum	Page
BS/1/2/3/4	YES	NO	57
BGD80	YES	YES	57
DD4/4S	YES	YES	57
DT45/45A/45E	YES	NO	58/59
DT45G/GE	YES	YES	58/59
DT45C/U	YES	YES	58/59
DTC45	YES	YES	59
PT45/45X	YES	YES	59
DTLC45/45S	YES	NO	60
DTLC45SP	NO	YES	60
DTCL	YES	YES	60
DTHR/P	YES	NO	61
DTHRP1	YES	YES	61
DTP45	YES	NO	61
DTH300	YES	NO	62
DTH300H	YES	NO	62/63
DTH350	YES	NO	62
DTH350H	YES	NO	62
DTH400/450/450H	YES	YES	62/63
DTR300	YES	YES	64
DTR300E	YES	YES	64
DTR350	YES	NO	65

IGE Ref	Steel drum	Poly drum	Page
DTR350W	YES	NO	65
DTR350WP	YES	YES	65
DLC	YES	NO	66
DLCL200/500	YES	NO	66
DLSS/SB/HE	YES	NO	66
DLS360	YES	NO	67
DLS500	YES	NO	67
DLSV/V2	YES	YES	67
DLSC/CE	YES	NO	67
DLG500	YES	NO	68
DLT/C	YES	NO	68
DLTP/CP	NO	YES	68
DLF40	YES	NO	69
DLF402	YES	NO	69
DLF50	NO	YES	69
DLFG1/G2	YES	NO	69
DLFT	YES	NO	70
DLFTA	YES	NO	70
DLFTP	YES	YES	70
DLFTW	YES	NO	70
DLFTWP	YES	YES	70
DLFP/PU	YES	YES	71

DRUM HANDLING

Drum Opening Tools

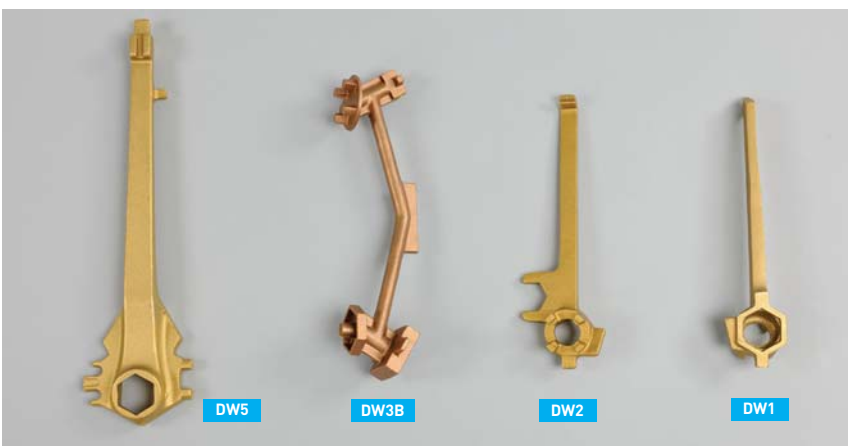
Model No.	DKP45	
Price	£4.95	Category D
Material	plastic - non-sparking	
Weight	100 g	

Model No.	DKAD	
Price	£10.95	Category D
Material	plastic - non-sparking	
Additional info	drum wrench designed to safely fit & remove adaptors (see 'BARREL ADAPTORS' p. 43) & standard drum closures	



Model No.	DKS45	
Price	£12.95	Category D
Material	plated steel - rubber grip	
Weight	700 g	

Model No.	DKB45	
Price	£43.50	Category D
Material	all brass - rubber grip	
Weight	800 g	



A range of bronze alloy, non-sparking safety drum opening tools designed to be multi-purpose and fit the 3/4" & 2" bungs on almost all 50, 100 & 210 litre steel & plastic drums.

Model No.	DW1	
Price	£17.50	Category D
Length mm	310	
Weight	750 g	

Model No.	DW2	
Price	£18.50	Category D
Length mm	310	
Additional info	1 1/4" socket for drum taps	
Weight	800 g	

Model No.	DW3B	
Price	£27.95	Category D
Length mm	350	
Weight	1.4 kg	

Model No.	DW5	
Price	£36.00	Category D
Length mm	460	
Additional info	extra long for increased leverage	
Weight	1.8 kg	

Standard drum bung patterns for all drum opening tools shown on this page

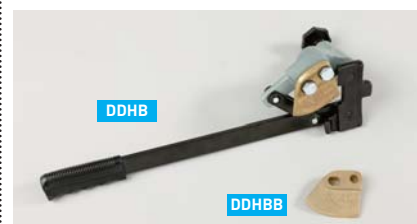
Barrel taps - see pages 44-45
Barrel pumps - see pages 19-36



Model No.	DK2	
Price	£9.95	Category D
Material	plated steel	
Weight	800 g	

Also doubles as a drum tap wrench.
See page 46

Drum De-Headers



Adjustable to thickness of drum material

Model No.	DDHS	
Price	£75.00	Category D
Body material	steel	
Weight	3.5 kg	

Model No.	DDHSB	
Price	£15.00	Category D
Product	replacement steel blade for DDHB	

Model No.	DDHB	
Price	£142.00	Category D
Body material	brass - alloy	
Weight	2.5 kg	
Additional info	non-sparking	

Model No.	DDHBB	
Price	£40.00	Category D
Product	replacement brass blade for DDHB	

Drum Dollies

210 Litre Dollies



BGD80



DD4



A range of heavy duty, powder-coated steel and stainless steel, 4-castor drum dollies for 210 litre drums.

Model No.	Description	Inside dia. mm	Castors dia. mm	Capacity kg	Drum type	Weight unladen kg	Price
BGD80	pressed steel - powder coated	585	80	300	steel & poly	5	£21.95
DD4	heavy duty steel - powder coated	603	76	400	steel & poly	10	£49.95
DD4S	heavy duty stainless steel	603	76	350	steel & poly	7	£75.00

Category C

25 Litre Dolly

Model No. 5GTD

Price £12.95

Category C

Description 4-castor dolly for 25 litre drum

Additional info

- drum NOT included
- drum can be supplied as an optional extra

Weight without drum: 2.4 kg



DD4S

Drum Stands

20/25 Litre

Drum pouring cradle for 20 & 25 litre steel & poly drums.

Model No. 5GDC

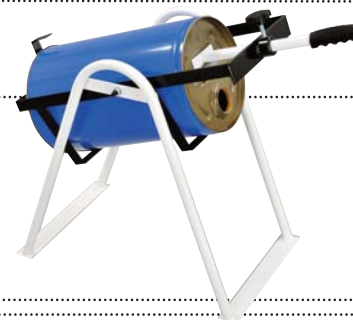
Price £89.95

Category C

Weight 9 kg

Additional info

- allows controlled pouring of drum contents
- accommodates round or square, polythene or metal drums
- remains in position - does not swing
- prevents accidents & mess



210 Litre

A range of heavy duty, powder-coated steel drum stands for 210 litre drums. Designed to tilt the drum from vertical to horizontal resting position and to move the drum around easily. Models BS, BS1 & BS2 are delivered in flatpack form for self-assembly on site.

Category C



BS



BS1



BS2

Model No.	Description	Height of drum from ground mm	Capacity kg	Weight unladen kg	Price
BS	Plain drum stand	300	300	7.5	£59.50
BS1	2 fixed wheels & 2 castors	300	300	10	£99.95
BS2	2 fixed wheels, 2 castors, drum rollers	320	300	11	£114.95
BS3	2 heavy duty fixed wheels, 2 castors, drum rollers, detachable handle	390	300	23	£275.00
BS4	2 fixed wheels, 2 castors, twin extendable handles - galvanized steel	400	300	16	£99.95



BS3



BS4



BS4

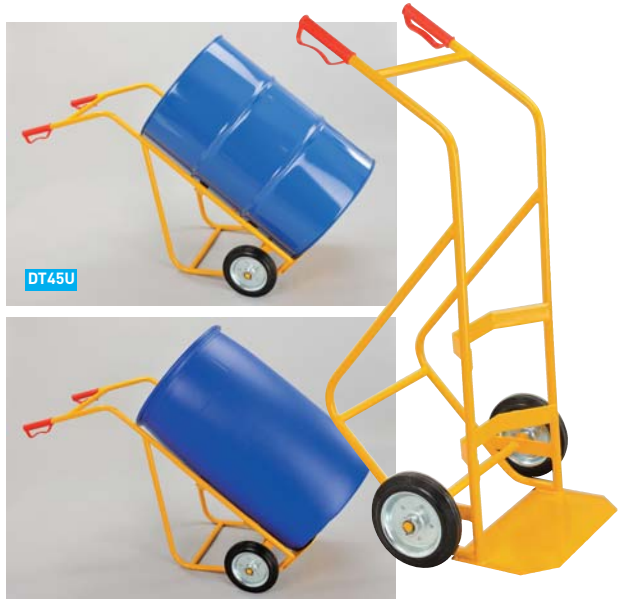
MANUAL & MECHANICAL HANDLING

25 & 210 Litre Drum Trolleys

DT45C



DT45U



DT45A



DT45



ROUGH
TERRAIN

DT45GE



BEST
QUALITY

Carriage charges - page 85

DT45E



DT45G



A range of heavy duty, powder-coated steel drum trolleys for 100 – 210 litre steel and plastic drums

Model No.	Description	Wheels		Capacity kg	Drum type	Weight kg	Price
		Tyre	Dia. mm				
DT45U	simple platform trolley for steel and plastic drums	solid rubber	250	400	steel & poly	23	£99.00
DT45C	universal platform trolley for steel, plastic & fibre drums with security chain	solid rubber	250	300	steel & poly	14	£120.00
DT45	sliding clip secures drum – steel drums only	solid rubber	250	400	steel	18	£115.00
DT45E	as DT45 but with rear castor c/w brake	solid rubber	250/160	400	steel	20	£135.00
DT45A	as DT45 but with pneumatic wheels for rough terrain	pneumatic	260	400	steel	16	£175.00
DT45G	pincer grab secures drum	solid rubber	250	400	steel & poly	21	£149.95
DT45GE	as DT45G but with rear castors solid rubber	solid rubber	250/75	400	steel & poly	24	£159.95

20/25 Litre Drum Trolley

Model No.	5GTTE	Category C
Price	£29.95	
Description	2-wheel trolley for 20 & 25 litre steel & poly drums	
Wheels	6" (150 mm) dia.	
Additional info	<ul style="list-style-type: none"> • drum NOT included • drum can be supplied as an optional extra 	
Weight	without drum: 3.4 kg	

Pump & trolley outfit - see page 11



Model No. DTC45 210 Litre Drum Caddy

Price	£99.95	Category C
Description	drum caddy / transporter for 210 litre steel or plastic drums	
Additional info	<ul style="list-style-type: none"> • one-person operation • detachable handle doubles as a drum tilter to facilitate loading & unloading • handle also incorporate lugs for removal of drum bungs 2" & 3/4" 	
Capacity kg	450	
Wheels	<ul style="list-style-type: none"> • 2 x fixed wheels 150mm dia. • 1 x castor 75mm dia. 	
Weight	16 kg	



210 Litre Heavy Duty Drum Trolleys



A range of extra-heavy duty, powder-coated steel platform drum trolleys for 100 – 210 litre drums.

Category C

Model No.	Description	Wheels		Capacity kg	Drum type	Weight kg	Price
		Tyre	Dia. mm				
PT45	2 x rear heavy duty castors c/w brakes	solid rubber	210	350	steel & poly	53	£185.00
PT45X	all terrain trolley – 1 x rear heavy duty castor c/w brake	pneumatic	260	350	steel & poly	30	£239.95

210 Litre Manual Drum Tilter Trolleys

210 Litre Cantilever Drum Trolley

Model No.	DTCL	
Price	£299.95	Category C
Description	cantilever type versatile drum transporter for 210 litre steel or plastic drums	
Additional info	<ul style="list-style-type: none"> • one-person operation • quick and easy lift and move • highly manoeuvrable • drum lift height 220mm 	
Capacity kg	365	
Wheels	2 x fixed wheels & 1 x castor	
Weight	45 kg	



210 Litre Drum Cover



A lockable drum cover for 210 litre drums which provides security indoors and shelter outdoors. Bolts into position from the inside.

Model No.	DC45	
Price	£265.00	Category B
Dimensions mm	590 H x 580 dia.	
Weight	22 kg	

Model No.	DTLC45	
Price	£249.95	Category C
Description	gravity/manually operated	
Drum Type	steel	
Weight	41 kg	

Model No.	DTLC45S	
Price	£274.95	
Description	same as DTLC45 but fitted with tensioning spring for controlled drum turning - will not swing.	
Drum Type	steel	
Weight	42 kg	

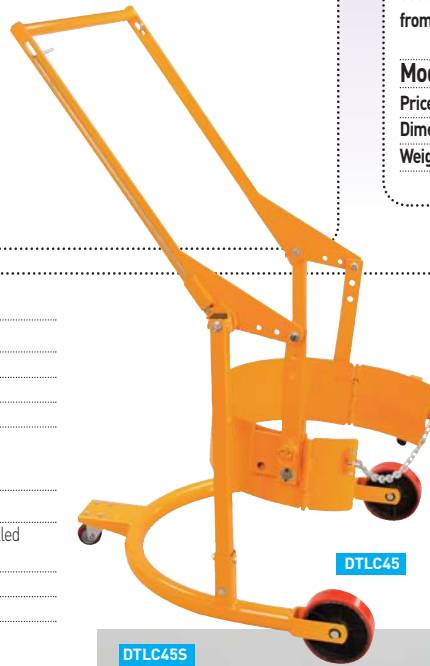
Model No.	DTLC45SP	
Price	£299.95	
Description	same as DTLC45S but for 210 litre poly drums	
Drum Type	poly	
Weight	48 kg	

Common Specification	
Additional info	<ul style="list-style-type: none"> • one-person operation • ratchet drum clamp mechanism • ratchet lifting mechanism • floor clearance from 5" to 12" • can be locked in any position for dispensing • rotates through 360 deg. • highly manoeuvrable

Dimensions mm	940 x 885 x 1180	
Capacity kg	365	
Wheels	2 x fixed wheels & 1 x castor	

Model No.	DS2	
Price	£10.95	
Additional info	<ul style="list-style-type: none"> • available as an optional extra - ideal for use with all the above • 2" bsp metal flexible screw-on pouring spout • 305mm long x 30mm i.d. • integral gauze filter 	

Shut-off valve recommended. Please refer to model no. DS2BV on page 67.



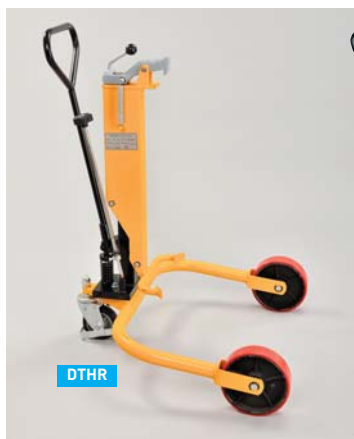
Hydraulic Drum Trucks

Pallet truck type drum transporter for 210 litre steel drums.

Model No.	DTP45	
Price	£349.95	Category B
Additional info	<ul style="list-style-type: none"> • one-person operation • quick and easy lift and move • highly manoeuvrable • detachable handle 	
Capacity kg	365	
Wheels	2 x fixed wheels & 1 x castor	
Weight	53 kg	



Hydraulically operated drum trucks for 210 litre steel or plastic drums. Each trolley enables a single operator to pick up and transport full or empty steel drums with minimum effort, no strain and in complete safety. The clamp mechanism is easy to position and grabs and lifts the drum by its' rim meaning the operator doesn't have to manoeuvre or even touch the drum by hand. A touch-sensitive release valve lowers the drum safely back down to the ground. The easy action hydraulic pump is manually operated.



Category B

Model No.	Dimensions H x W x D mm	Certified lifting capacity kg	Max. drum lift height mm	Features	Distance between legs mm	Drum Type	Weight kg	Price
DTHR	1050 x 800 x 820	250	245	• 2 x fixed wheels - 1 x castor with brake	630	steel	42	£275.00
DTHRP	1200 x 980 x 820	250	330	• high base & high lift for pallets & drum sumps	800	steel	50	£375.00
DTHR1	1120 x 1080 x 640	300	290	• 2 x fixed wheels & 2 x castors with brakes • 90 deg. legs allow access to pallet corners • high base & high lift for pallets & drum sumps • 2 x fixed wheels & 1 x castor with brakes	n/a	steel & poly	42	£375.00

Hydraulic Drum Trolleys



DTH300



Carriage charges - page 85

Using the same principle of hydraulic pump & grab operation as the DTHR range, these drum trucks are designed specifically for loading and unloading 210 litre steel drums on to and off pallets & drum sumps of all sizes. The easy action hydraulic pump is foot operated and each trolley has 2 x fixed wheels & 2 x castors with brakes

Category B

Model No.	Dimensions H x W x D mm	Drum Type	Certified Lifting Capacity kg	Max. Drum Lift Height mm	Features	Weight kg	Price
DTH300	1560 x 900 x 870	steel	300	800	<ul style="list-style-type: none"> low level legs allow pallet loading/unloading high lift for loading into vehicles 	82	£389.95
DTH350	1545 x 1146 x 1080	steel	350	800	<ul style="list-style-type: none"> low level legs allow pallet loading/unloading high lift for loading into vehicles 	125	£850.00
DTH350H	1860 x 870 x 1145	steel & poly	350	1200	<ul style="list-style-type: none"> very high lift large dia. wheels high base & 90 deg. legs to go over pallets etc 	137	£875.00
DTH400	1810 x 720 to 1400 x 1100	steel	400	1070	<ul style="list-style-type: none"> adjustable legs for different pallets very high lift large dia. wheels 	100	£675.00
DTH450	1260 x 1090 x 855	steel & poly	450	500	<ul style="list-style-type: none"> high base & 90 deg. legs to go over pallets etc 90 deg. legs for loading on corners of pallets & drum sumps 	108	£750.00
DTH450H	1625 x 1090 x 830	steel & poly	450	800	<ul style="list-style-type: none"> as DTH450 but extra high lift for loading into vehicles 	113	£850.00



DTH350H



Automatic grab & release drum clamp.

PRICE
DROPS



DTH350



DTH350

Automatic grab & release drum clamp.



DTH400



HIGH
LIFT

Delivery
via pallet.
See page
85 for
carriage
charges.



DTH450/450HTH



Hydraulic Drum Rotator Trolleys



Delivery via pallet. See page 85 for carriage charges.

Hydraulically operated drum trucks for lifting, turning, mixing, emptying and transporting 210 litre steel and poly drums. Each trolley enables a single operator to pick up and transport full or empty steel drums with minimum effort, also allowing drums to be turned to any angle for easy dispensing or mixing. There are two versions: (1) model DTR300 easy action hydraulic foot pump and hand-operated descent control lever or (2) model DTR300E 12V/60Ah electric power lift unit - both fitted with hand crank drum turner. Both fitted with 2 x fixed wheels & 2 x castors with brake.

Category B

Model No.	Dimensions		Certified Lifting Capacity kg	Max. Drum Lift Height mm	Wheel/castor Diameter mm	Weight kg	Price
	H x W x D cm	Drum Type					
DTR300	220 x 105 x 140	steel & poly	300	1100	220/150	42	£1195.00
DTR300E	220 x 105 x 140	steel & poly	300	1100	220/150	50	£2475.00



MADE TO ORDER*

*Contact us for delivery period.

Drum Pouring Accessories

It is recommended that a shut-off ball valve is used in conjunction with DS2 pouring spout. Category C

Model No. DS2

Price £10.95

- Additional info
- available as an optional extra - ideal for use with all the above
 - 2" bsp metal flexible screw-on pouring spout
 - 305mm long x 30mm i.d.
 - integral gauze filter



Model No. DS2BV

Price £24.95

- Additional info
- 2" bsp male/female shut-off ball valve
 - available as an optional extra
 - ideal for use with all drum pourers & tilters
 - weight 1.6 kg





DTR350



DTR350



DTR350W

Manually operated drum trucks for lifting, turning, mixing, emptying and transporting 210 litre steel and poly drums. Each trolley enables a single operator to pick up and transport full or empty steel & poly drums with minimum effort, also allowing drums to be turned to any angle for easy dispensing or mixing. Designed to be used for pallet loading and unloading. There are three versions: (1) model DTR350 easy action hydraulic foot pump and hand-operated descent control lever with manual drum turn operation thro 90-180 degs. or (2) models DTR350W & DTR350WP which are the same as DTR350 but fitted with hand crank drum turner thro 360 degs. Both fitted with 2 x fixed wheels & 2 x castors with brake.

Category B

Model No.	Dimensions		Certified Lifting Capacity kg	Max. Drum Lift Height mm	Wheel/castor Diameter mm	Weight kg	Price
	H x W x D cm	Drum Type					
DTR350	126 x 107 x 89	steel	350	500	125/125	151	£995.00
DTR350W	126 x 107 x 89	steel	350	500	125/125	166	£1140.00
DTR350WP	126 x 107 x 89	poly	350	500	125/125	174	£1140.00



DTR350W



DTR350WP

SPECIAL NOTES

1. All our drum trolleys are supplied fully CE marked and with relevant weight limit certificates and certificates of conformity, where applicable.
2. Some devices are very heavy & can only be transported via pallet - please contact our sales office for details and prices.

DRUM LIFTING

Carriage charges - page 85

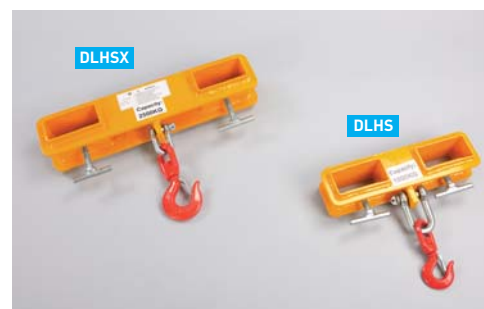
Forklift Sleeves



DLHS



DLHSX



DLHSX

DLHS

A range of heavy duty, powder-coated, steel, forklift double sleeve attachments with swivel & hook. Suitable for use with ALL IGE drum lifting devices.

Category C

Model No.	Dimensions L x H mm	Certified lifting capacity kg	Max. fork entry size mm	Distance between centres mm	Weight kg	Price
DLHS	460 x 130	1000	145 x 55	250	14	£99.95
DLHSX	660 x 140	2500	145 x 55	450	25	£149.00

Digital Load Indicators

A small range of digital load indicators designed to measure the weight of suspended items, specifically drums and barrels when used in conjunction with one of our drum lifters.

Category C

Model No. ID250
Price £275.00
Test capacity kg 250

Model No. ID500
Price £285.00
Test capacity kg 500

Model No. ID1000
Price £295.00
Test capacity kg 1000

Features:

- electronic display
- CE marked
- load tested and certificated
- will measure TARE - kg - lb
- will also measure force in daN (Newtons)
- requires 3 x AA/LR6 batteries

Additional Info:

- weight 1kg
- dimensions 220 x 90 x 42 mm
- batteries not supplied
- shackles not supplied



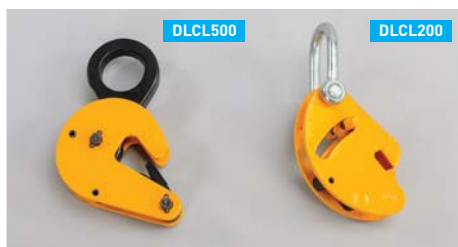
Model No. DLCL200
Price £34.95
Certified lifting capacity kg 200
Weight 1.2 kg
 Category C

Model No. DLCL500
Price £39.95
Certified lifting capacity kg 500
Weight 1.4 kg
 Category C

Drum Clamp Lifters

Simple & quick vertical clamp action devices for 210 litre steel drums. Features:

- automatic locking & unlocking mechanism
- can be used singly or in pairs
- lightweight and quick to use
- chain NOT supplied



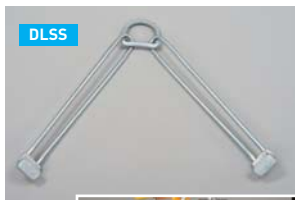
Horizontal/Vertical Lifter

Chain drum grab for quick & easy lifting & movement of steel drums either vertically or horizontally. Ideal for compact storage.

Model No. DLC
Price £49.95
Certified lifting capacity kg 1000
Drum type steel
Length mm 1150
Weight 3.6 kg
 Category C



Horizontal Lifters



Horizontally operated slings for quick & easy movement of steel drums.

Model No.	Description	Certified lifting capacity kg	Drum Type	Weight kg	Price
DLSHE	steel - powder coated	500	steel	4.4	£34.95
DLSS	steel - cast iron	3000	steel	2.5	£24.95
DLSB	all brass - non-sparking	1840	steel	2	£49.95

Category C

1. All our forklift truck attachment drum lifting devices are supplied fully CE marked and with relevant weight limit certificates and certificates of conformity.
2. Please note all our drum lifters have been photographed in conjunction with one of our forklift sleeve attachments which are NOT supplied with the lifting device but are available as an optional extra. See DLHS and DLHSX on page 61.
3. Some devices are very heavy & can only be transported via pallet – please contact our sales office for details and prices.

DRUM LIFTING

Horizontal Lifters



Horizontally operated slings with locking bar for 210 litre steel drums.

Model No.	DLS500		
Price	£54.95	Category C	
Certified lifting capacity kg	500		
Drum type	steel		
Weight	8 kg		



Vertical Lifters



3-pronged vertically operated lifter for 210 litre steel drums.

Model No.	DLS360		
Price	£34.95	Category C	
Certified lifting capacity kg	360		
Drum type	steel		
Weight	4.5 kg		



DLSV



DLSV



DLSV2

Vertically operated steel slings for quick & easy movement of steel & plastic drums.

Category C

Model No.	Description	Certified lifting capacity kg	Drum type	Weight kg	Price
DLSV	easy-to-use slings with guide handles ~ for use with steel 210 litre drums	500	steel	8	£39.95
DLSV2	wide clamp rims protect the drum's rim ~ for 'L' ring poly or steel 210 litre drums	350	steel & poly	8	£49.95



DLSCE



DLSCE



DLSC

Vertical clamp action hoist for 210 litre steel drums. Made from powder coated steel.

Category C

Model No.	Certified lifting capacity kg	Drum type	Weight kg	Price
DLSCE	500	steel	5	£39.95
DLSC	500	steel	13	£84.95

Vertical Lifters

Carriage charges - page 85



Automatic clamping action lifts drum vertically and releases automatically when drum is grounded.

Model No.	DLG500	
Price	£44.00	Category C
Certified lifting capacity kg	500	
Drum type	steel	
Weight	7.2 kg	

SPECIAL NOTES

1. All our forklift truck attachment drum lifting devices are supplied fully CE marked and with relevant weight limit certificates and certificates of conformity.
2. Please note all our drum lifters have been photographed in conjunction with one of our forklift sleeve attachments which are NOT supplied with the lifting device but are available as an optional extra. See DLHS and DLHSX on page 61.
3. Some devices are very heavy & can only be transported via pallet – please contact our sales office for details and prices.

Forklift Operated Drum Lifters/Rotators



Vertically operated drum lifter/tilters for 210 litre steel or plastic drums. Designed to lock in position vertically and horizontally.

Model No.	Description	Drum Type	Certified lifting capacity kg	Weight kg	Price
DLT	allows the drum to be tilted for positioning & pouring	steel	360	20	£179.95
DLTC	allows the drum to be tilted for positioning & pouring by pulley & chain	steel	360	38	£299.95
DLTW	web sling only for DLT & DLTC to be used with poly drums	--	--	0.6	£24.95
DLTP	allows the drum to be tilted for positioning & pouring	poly	360	22	£229.95
DLTCP	allows the drum to be tilted for positioning & pouring by pulley & chain	poly	360	40	£329.95

Category B

Forklift Operated Drum Grabs



DLF40



DLF402



DLF50



DLFG1



DLFG2



Delivery via pallet. See page 85 for carriage charges.

Heavy duty industrial forklift truck attachment lifters. Each device allows drums to be lifted & deposited automatically without the driver having to leave the cab. Each device can be fitted with a safety chain to secure it to the truck (not supplied).

Category B

Model No.	Description	Max. fork entry size mm	Certified lifting capacity kg	Drum type	Weight kg	Price
DLF40	for single 210 litre steel drum	140 x 50	600	steel	55	£325.50
DLF402	for 2 x 210 litre steel drums	180 x 55	2 x 450	steel	90	£375.00
DLF50	for single 210 litre poly drum 450 - 560 mm dia.	140 x 30	450	poly	20	£175.00
DLFG1	for single 210 litre steel, 'L' ring poly or fibre drum - positive automatic grip action holds drum securely on all terrains - adjustable drum height	140 x 55	360	steel	60	£395.00
DLFG2	As DLF61 but can accommodate 2 drums	150 x 55	2 x 360	steel	105	£495.00

Forklift Operated Drum Lifters/Rotators



DLFT/DLFTA



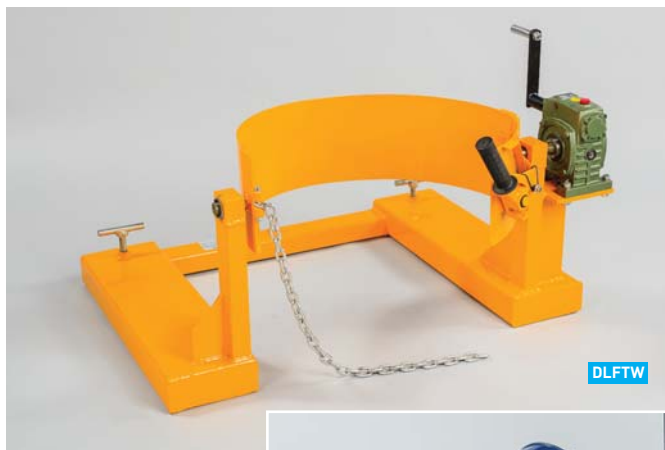
Forklift truck attachment drum lifters/tilters. A 10ft chain allows the drum to be tilted through 360 degs. without the driver having to leave the cab, if required. Distance between centres of fork entry sockets 620mm. Each device can be fitted with a safety chain to secure it to the truck (not supplied).

Category B

Model No.	Dimensions H x W x D mm	Certified lifting capacity kg	Max. fork entry size mm	Drum turn operation	Drum Type	Weight kg	Price
DLFT	680 x 535 x 995	365	180 x 65	chain gear	steel	70	£399.95
DLFTA	770 x 535 x 995	680	180 x 65	chain gear	steel	97	£450.00
DLFTP	680 x 535 x 995	365	180 x 65	chain gear	poly	76	£425.00
DLFTW	710 x 460 x 1020	365	180 x 65	hand crank device	steel	58	£420.00
DLFTWP	710 x 460 x 1020	365	180 x 65	hand crank device	poly	65	£440.00



DLFTP



DLFTW



DLFTWP

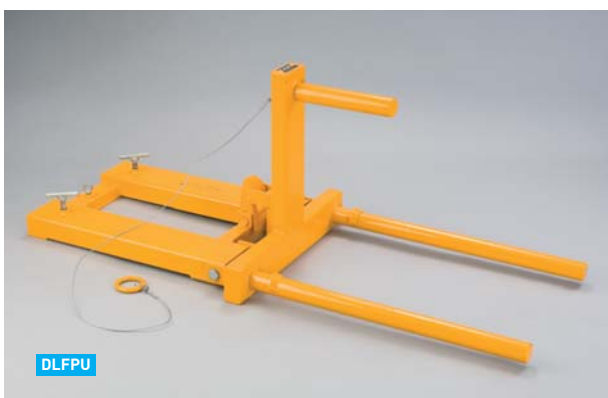
Delivery via pallet. See page 85 for carriage charges.



DLFTW

Drum Positioners

Carriage charges - page 85



Forklift truck attachment drum lifters/positioners. Each device allows a single 210 litre steel or poly drum to be lifted & deposited automatically without the driver having to leave the cab. Each device can be fitted with a safety chain to secure it to the truck (not supplied). Category B

Model No.	Description	Max. fork entry size mm	Certified lifting capacity kg	Drum type	Weight kg	Price
DLFP	lifts, carries & positions the drum on to or off drum stands & racks	150 x 60	300	steel & poly	42	£199.95
DLFPU	as DLFP but will also deposit the drum to the vertical position	150 x 60	400	steel & poly	75	£399.95

Forklift Jib



Convert a forklift truck into a mobile crane to reach and transport loads to & from inaccessible locations. 3 tonne capacity.

NOTE:
Very heavy item.
Please contact us for carriage charges.

Model No. **FLJ03**
Price **£895.00**

Category B

Position	A	B	C	D	E	F	G	H	I	J	K	L	M
Jib length mm	755	985	1215	1445	1675	1905	2125	2355	2580	2810	3040	3270	3500
Capacity kg	3000	2300	1865	1570	1355	1190	1065	960	875	805	745	690	640

* Position A is nearest the forklift mast, position M the furthest

- All our forklift truck attachment drum lifting devices are supplied fully CE marked and with relevant weight limit certificates and certificates of conformity.
- Please note all our drum lifters have been photographed in conjunction with one of our forklift sleeve attachments which are NOT supplied with the lifting device but are available as an optional extra. See DLHS and DLHSX on page 65.
- Some devices are very heavy & can only be transported via pallet – please contact our sales office for details and prices.

WORKSHOP TRUCKS & TROLLEYS

Sack Trucks



Standard Duty Sack Truck		Category B
Model No.	SDST	
Price	£89.95	
Capacity kg	250	
Weight	15 kg	
Dimensions mm	1245 H x 535 W x 470 D	
Wheel type	pneumatic	
Wheel size mm	254 dia. x 90 W	



'P' Handle sack truck designed for one-handed operation.		Category B
Model No.	SDSTP	
Price	£44.95	
Capacity kg	200	
Dimensions mm	1310 H x 540 W x 475 D	
Wheel type	pneumatic	
Wheel size mm	260 dia.	
Weight	11 kg	



Folding stair-climber sack truck.		Category B
Model No.	SDSTC	
Price	£89.95	
Capacity kg	120	
Dimensions mm	1150 H x 605 W x 765 D	
Wheel type	6 x solid rubber (cushioned)	
Wheel size mm	160 dia.	
Weight	16 kg	



Folding lightweight aluminum collapsible sack truck.		Category B
Model No.	SDSTA	
Price	£39.95	
Capacity kg	90	
Dimensions mm (extended)	1105 H x 400 W x 410 D	
Dimensions mm (collapsed)	740 H x 400 W x 180 D	
Wheel type	2 x solid rubber (cushioned)	
Wheel size mm	150 dia.	
Weight	7 kg	

Drum trolleys
- see page 58



3-Position Truck



3-Position sack truck.		Category B
Model No.	SDSTP3	
Price	£99.95	
Capacity kg	300	
Dimensions mm	1290 H x 470 W x 450 D	
Wheel type	2 x solid rubber & 2 castors	
Wheel size mm	wheels 250 dia. / castors 100 dia.	
Weight	19 kg	



Hydraulic Stacker

Carriage charges - page 85

Hydraulic manual stacker trolley with adjustable forks.

Model No.	LTH400	
Price	£399.95	Category B
Capacity kg	400	
Max. fork height mm	1200	
Fork length mm	650	
Fixed fork width mm	210 to 550 (outside dimension)	
Dimensions mm	1410 H x 590 W x 1040 L	
Conformity	CE EN 1757-1	
Weight	81 kg	



MADE TO ORDER*



Electric stacker trolley as per LTH400 but with electric lift operation.

Model No.	LTH400E	
Price	£1585.00	Category B
Motor	0.8 KW	
Battery	70/12 Ah/V	
Dimensions mm	1410 H x 590 W x 1040 L	
Conformity	CE EN 1757-1:2001	
Weight	121 kg	

*Contact us for delivery period.

GAS CYLINDER HANDLING

Gas Cylinder Stand & Trolleys



CTCS



CT20A



CT20B



CT10



A range of heavy duty cylinder handling equipment. All trolleys have solid rubber wheels each with roller bearings & safety chain to secure cylinder to trolley.

Category B

Model No.	Description	Wheel dia. mm	Dimensions H x W x D cm	Cylinder dia. mm	Cylinder capacity litres	Weight kg	Price
CTCS	dual cylinder stand	n/a	100 x 54 x 36	up to 230	40 / 50	18	£85.00
CT10	single cylinder truck	200	136 x 66 x 60	140 - 250	10 / 20 / 40 / 50	17	£75.00
CT20A	dual cylinder truck	400	138 x 70 x 70	210 - 250	40 / 50	45	£165.00
CT20B	dual cylinder truck	400/200	142 x 75 x 55	210 - 250	40 / 50	50	£195.00

PRESSURE TEST PUMPS

BEST QUALITY



Manual workshop hydraulic test pump.

Model No.	PTP100	Category C
Price	£625.00	
WP Bar	100	
Capacity	38 litres	
Hose connection	3/8" BSPM	
Features	<ul style="list-style-type: none"> • double control valve • pressure gauge & coil • CI & steel construction 	
Weight	22 kg	



Manual workshop hydraulic test pump.

Model No.	PTPACC	Category C
Price	£235.00	
WP Bar	40	
Capacity	13 litres	
Hose length	1.5 metres	
Hose connection	1/2" BSPM	
Features	<ul style="list-style-type: none"> • single control valve • pressure gauge & coil • bronze & steel construction 	
Weight	8 kg	

AIR TOOLS

Air Cleaner Gun



A stainless steel cleaning sprayer for solvents, de-greasers and cleaning fluids.

Model No.	ABG750	Category C
Price	£36.95	
Capacity cc	750	
Inlet	1/4" BSPF	
Hose length mm	200 c/w adjustable nozzle	
Max. air cons	110 l/min	
Additional info	<ul style="list-style-type: none"> • supplied c/w 1 metre suction hose with filter for use with your own container 	
Weight	700 g	



Electric workshop hydraulic test pump that connects directly to the water mains.

Model No.	PTPEL	Category C
Price	£640.00	
WP Bar	50	
Capacity	13 litres	
Flowrate	7 litres/minute	
Power	230v AC - 50 Hz - 0.75 kW	
Hose length	1.5 metres	
Hose connection	1/2" BSPM	
Features	<ul style="list-style-type: none"> • integral pressure gauge • pressure regulator • brass internals 	
Weight	15 kg	

Carriage charges - page 85

Please refer to flap on inside back cover for material definitions & other technical terms

ACCESS EQUIPMENT

Steps & Step Ladders



Kick Step is a premium GS approved high quality mobile step finished in a choice of 7 colours: black, red, blue, dark grey, light grey, green and yellow.



Model No.	STEP1	
Price	£37.95	Category B
Working load kg	150	
Dimensions mm	400 H x 260 to 430 dia.	
Wheel type	retractable spring-mounted castors	
Features	anti-slip rubber treads and base	
Weight	5 kg	

Robust steel non-slip steps.



STEP2

Model No.	STEP2	
Price	£33.95	Category B
Capacity kg	150	
Dimensions mm	380 H x 440 W x 655 D	
Step size mm	380 W x 260 D	
Space between steps mm	180	
Weight	4 kg	

Model No.	STEP3	
Price	£41.95	Category B
Capacity kg	150	
Dimensions open mm	1065 H x 490 W x 665 D	
Step size mm	380 W x 260 D	
Space between steps mm	230	
Features	<ul style="list-style-type: none"> • foldable for easy storage • rubber comfort handrail 	
Weight	7 kg	



STEP3

WASTE BINS

Steel Waste Bins



Factory Bins



Factory Safety Bins – Steel

Category B

Heavy duty industrial waste bins for factory and workshop use fitted with lid and fusible link. In the event of fire the integral fusible link will melt at 57°C, causing the lid to slam shut thus extinguishing the fire.

Model No.	Features	Height x Dia. mm	Weight kg	Price
No. 51	lid - fusible link - inner bin liner retaining ring	457 x 407	9	£165.00
No. 52	lid - fusible link - inner bin liner retaining ring	915 x 401	11	£175.00

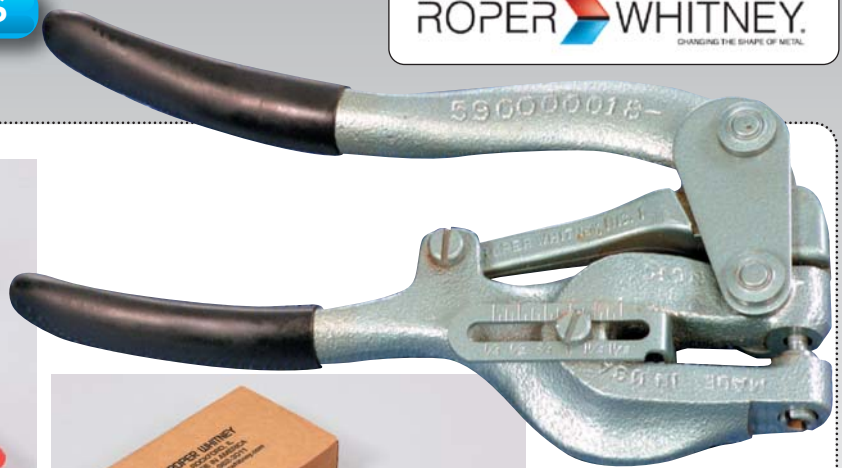
Carriage charges - page 85

sales@hartleige.com
0161 303 7394

SHEETMETAL WORKING TOOLS



Hand Punches – Light Duty



'Roper Whitney' Portable Hand Punches – Light Duty

- Maximum rated capacity 1.2 tons
- Both have adjustable depth gauges
- Supplied in handy storage box with seven punches & dies
- Bench mounting bases are available as optional extras
- Spare parts for each machine available from stock
- Standard round punches and dies are stocked for both machines from 1/16" to 9/32" dia. for the 5JR and 1/16" to 17/32" dia. for the XX in increments of 1/64"
- Model no. XX can be used to punch light channels with a 1" minimum inside dimension and a 1.3/8" maximum flange

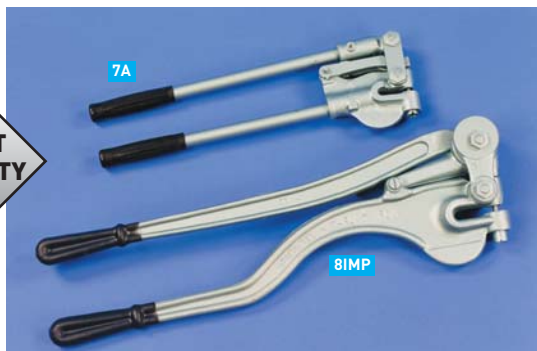
Hole Punch
Technical Data
page 86



Model No.	Capacity thro m.s.	Tons	Max. hole size dia	Throat depth	Standard sizes of punches & dies in kit	Weight kg	Price	Category
5JR	1/4" dia. thro 16 swg	1.2	9/32"	1.3/4"	3/32" - 1/8" - 5/32" - 3/16" - 7/32" - 1/4" - 9/32"	2	£104.95	H
Punches	Spare punches to suit No. 5 Junior - 1/16" to 9/32" in 1/64" increments						£8.15	A
Dies	Spare dies to suit No. 5 Junior - 1/16" to 9/32" in 1/64" increments						£8.15	A
W05S	Bench Mounting Base to suit No. 5 Junior						£34.95	A
XX	1/4" dia. thro 16 swg	1.2	17/32"	3.1/4"	5/32" - 7/32" - 9/32" - 11/32" - 13/32" - 15/32" - 17/32"	4.5	£264.95	H
Punches	Spare punches to suit No. XX - 1/16" to 17/32" in 1/64" increments						£13.15	A
Dies	Spare dies to suit No. XX - 1/16" to 17/32" in 1/64" increments						£12.15	A
WXXS	Bench Mounting Base to suit No. XX						£50.95	A



Hand Punches – Medium Duty



'Roper Whitney' Portable Hand/Bench Punches – Medium Duty

- Models no. 7A and no. 8 IMP are linear operation
- Models no. 10 and no. 12 are rotary ball bearing operation
- Bench mounting bases for all four machines are available as optional extras
- Ratchet handle available for no. 10 and no. 12 as optional extra
- Spare parts for each machine available from stock
- Standard punches and dies available from stock from 1/16" dia. to max hole size in increments of 1/64"
- Special coupling nuts are used for the no. 10 and no. 12 to allow fitting of punches and dies above 1/2" dia. up to maximum size of 9/16" dia.

Model No	Capacity		Max. hole size dia.	Throat depth	Standard dia. of punch & die in kit	Weight kg	Price	Category
	thro m.s.	Tons						
7A	1/4" thro 1/8"	2.5	7/16"	1.5/8"	7/32"	3.5	£340.00	G
Punches	Spare punches to suit No. 7A – 1/16" to 7/16" in 1/64" increments						£11.50	A
Dies	Spare dies to suit No. 7A – 1/16" to 7/16" in 1/64" increments						£11.50	A
W07S	Bench Mounting Base to suit No. 7A						£89.95	A
8 IMP	1/4" thro 1/4"	5.0	1/2"	2.1/8"	9/32"	8	£448.00	G
Punches	Spare punches to suit No. 8 Imp – 1/16" to 1/2" in 1/64" increments						each	£11.50
Dies	Spare dies to suit No. 8 Imp – 1/16" to 1/2" in 1/64" increments						each	£11.50
W08S	Bench mounting Base to suit No. 8 Imp						£130.00	A
10	3/8" thro 1/4"	7.3	9/16"	1.1/2"	9/32"	4	£455.00	G
Punches	Spare punches to suit No. 10 – 1/16" to 9/16" in 1/64" increments						each	£15.30
Dies	Spare dies to suit No. 10 – 1/16" to 9/16" in 1/64" increments						each	£15.30
W10S	Bench Mounting Base to suit No. 10						£86.50	A
12	3/8" thro 1/4"	7.3	9/16"	2.1/4"	9/32"	6	£530.00	G
Punches	Spare punches to suit No. 12 – 1/16" to 9/16" in 1/64" increments						each	£15.30
Dies	Spare dies to suit No. 12 – 1/16" to 9/16" in 1/64" increments						each	£15.30
W12S	Bench Mounting Base to suit No. 12						£86.50	A



'Roper Whitney' 4-in-1 Multi-Tool 'Hang 4 Fabricator'

- Cuts – Punches – Bends – Twists
- Roller bearing operation

Category A

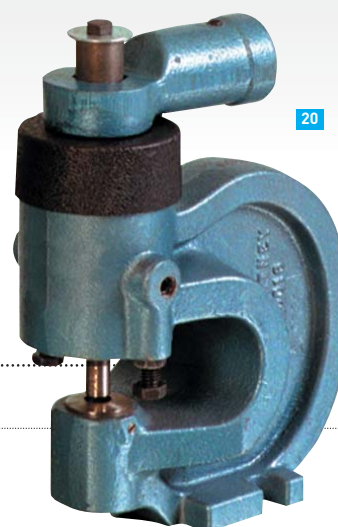
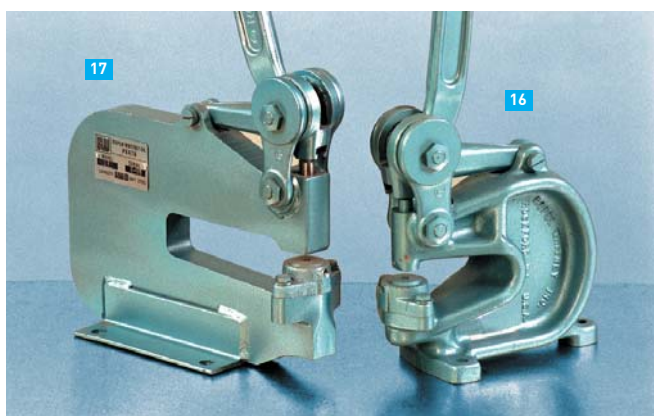
Model No.	Capacity through m.s.				Standard dia. size of punch & die in kit	Weight kg	Price
	Cutting	Bending	Punching dia.	Twisting			
W04F	1.1/2" thro 11 swg	90 deg. thro 16 swg	1/2" thro 11 swg	90 deg. thro 16 swg	6 mm	9.1	£750.00

Bench Punches

'Roper Whitney' Bench Punches – Medium Duty

- Roller bearing operation
- Supplied c/w 1 x 9/32" dia punch and die
- Adjustable die shoe to permit proper alignment of punches and dies
- 6" x 8" worktable with stops available as optional extra

Model No.	Capacity		Max. hole size dia.	Throat depth	Standard sizes of punches & dies in kit	Weight kg	Price	Category
	thro m.s.	Tons						
16	3/8" thro 1/4"	7.3	9/16"	3 1/8"	9/32"	12	£533.00	G
Punches	Spare punches to suit No. 16 – 1/16" to 9/16" in 1/64 increments					each	£15.80	A
Dies	Spare dies to suit No. 16 – 1/16" to 9/16" in 1/64 increments					each	£18.00	A
17	1/4" thro 1/4"	5.0	9/16"	6 1/8"	9/32"	17.5	£665.00	G
Punches	Spare punches to suit No. 17 – 1/16" to 9/16" in 1/64 increments					each	£16.80	A
Dies	Spare dies to suit No. 17 – 1/16" to 9/16" in 1/64 increments					each	£18.00	A



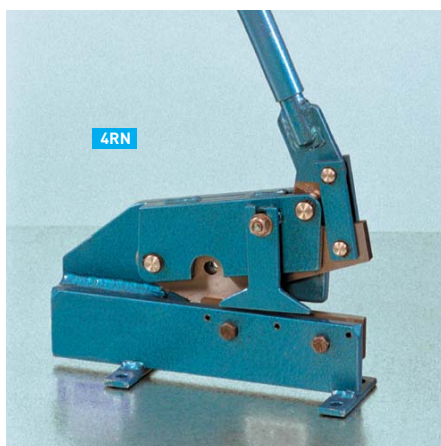
**Hole Punch
Technical Data
page 86**

'Roper Whitney' Bench Punch – Heavy Duty

- Rotary ball bearing action
- Ratchet handle available as optional extra
- Punches and dies from 1/8" to 13/16" available in increments of 1/64"
- Special coupling nuts are required for 11/16" up to 13/16" dia.

Model No.	Capacity		Max. hole size dia.	Throat depth	Standard sizes of punches & dies in kit	Weight kg	Price	Category
	thro m.s.	Tons						
20	1/2" thro 1/2"	20	13/16"	2 1/8"	1/2"	11.5	£569.00	G
Punches	Spare punches to suit No. 20 – 1/8" to 13/16" in 1/64 increments					each	£17.20	A
Dies	Spare dies to suit No. 20 – 1/8" to 13/16" in 1/64 increments					each	£17.20	A
119	Ratchet handle to suit No. 20						£178.00	A

LINEAR CUTTING MACHINE



Linear Cutting Machine. British made with Sheffield steel blades.

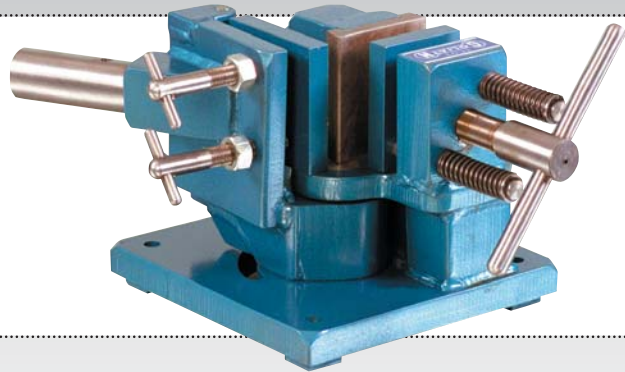
Model No.	Sheets	Capacity		Spare blades	Weight kg	Price	Category
		Flats mm	Rounds mm				
4RN	5/32" / 4 mm	25 x 5	11	see below	12	£348.00	G

ANGLE IRON WORKING MACHINERY

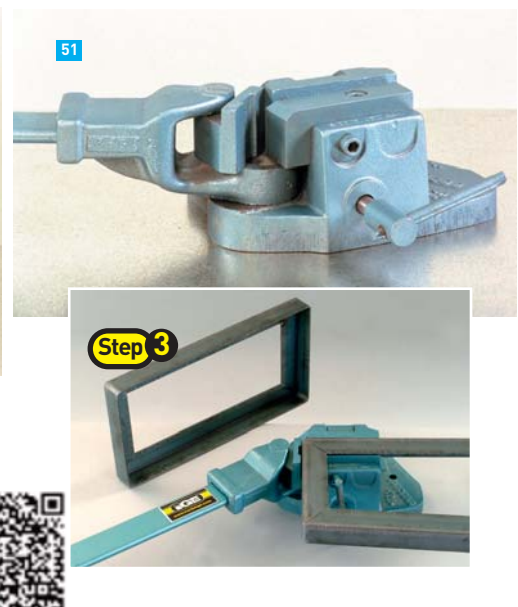
ROPER WHITNEY.
CHANGING THE SHAPE OF METAL.

'Vickery' Angle Bending Machine

Model No.	AB2	Category G
Flats up to mm	6 x 100	
or mm	13 x 50	
Notched angles mm	100 x 100 x 6	
Squares up to mm	20	
Rounds up to mm	20	
Width of jaws	3.1/2" (90 mm)	
Weight kg	42	
Price	£900.00	



'Roper Whitney' Angle Iron Working Machinery



Hand operated machines for cropping, notching and bending angle iron up to 2" x 2" x 1/4"

Model No.	Description	Weight kg	Price	Category G
No. 4	<ul style="list-style-type: none"> • With standard blades cuts 2" x 2" x 1/4" angle iron • Special blades are available for 1/8" thick angle to minimize distortion • 72" long bar handle 	23	£468.00	
No. 50	<ul style="list-style-type: none"> • With standard blades takes a 90° vee notch from 2" x 2" x 1/4" angle to enable bending to form a right angle • 32" long bar handle • Rectangular and special angle blades are available as optional extras 	25	£946.00	
No. 51	<ul style="list-style-type: none"> • Capacity 2" x 2" x 1/4" angle iron or 2" x 1/4" flat bar • Bends pre notched angle iron and flat bar to 90° • 32" long bar handle 	23	£696.00	

Carriage charges - page 85



Please refer to flap on inside back cover for material definitions & other technical terms

FLY & ARBOR PRESSES

Arbor Presses

'Norton' Arbor Presses

Category S

Extensively used for the pressing in and out of gears and bushing and for many types of assembly work

Size no. of Press	Base to guide mm	Centre to back mm	Dia. of rack mm	Weight kg	Price
M1	200	110	38	30	£1000.00
M2	270	160	38	56	£1200.00
M3	380	205	44	105	£1600.00
M3A	275	325	38	70	£1500.00



- Bodies specially girdered to give maximum amount of strength for weight
- All rams bored to 25.4mm dia. plain hole unless otherwise specified
- All hand presses are supplied complete with necessary weights and clamps
- ALL MEASUREMENTS ARE APPROXIMATE

**BEST
QUALITY**

**Delivery via
pallet.
See page 85
for carriage
charges.**

Flypresses 'Norton'



'Norton' Standard Flypresses

Category S

Size No. of Press	Base to guide mm	Centre to back mm	Dia. of screw mm	Bed rings	Across T- slots mm	Hole in base mm	Approx weight kg	Price
2S	159	102	44	1	330	57	79	£2410.00
4S	178	127	44	1	457	108	175	£3350.00
6S	229	152	54	1	533	158	266	£3950.00
12S	375	300	64	1	635	215	760	£7650.00

'Norton' Deep Throat Flypresses

Specially designed to give increased tool and work space from centre to back

Size No. of Press	Base to guide mm	Centre to back mm	Dia. of screw mm	Stroke mm	Bed rings	Across T- slots mm	Hole in base mm	Approx weight kg	Price
2A	229	254	44	89	-	330	57	138	£2650.00
4A	229	254	44	127	1	457	108	242	£3510.00
5A	229	254	54	127	1	483	133	272	£3965.00
6A	229	305	54	127	1	508	184	355	£4220.00
8A	229	380	54	127	1	508	184	380	£4445.00
10A	305	305	64	140	1	620	230	520	£5800.00

Flypress Stands are available for all models. Please contact our sales office for full details.

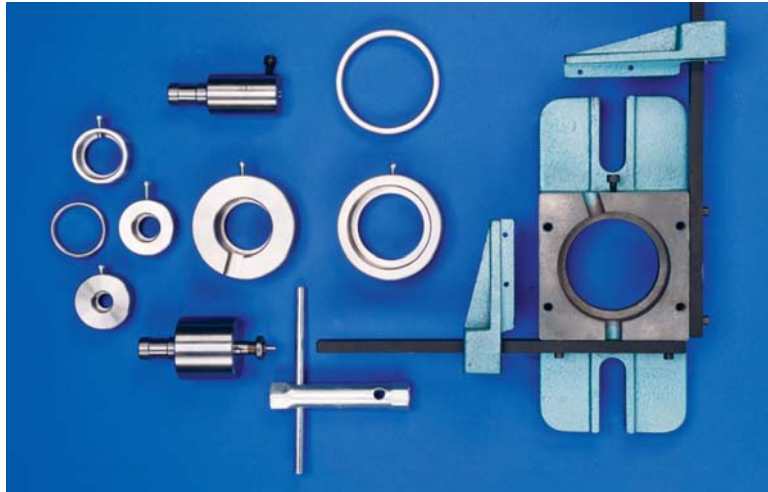
FLY PRESS BOLSTER OUTFITS & TOOLING

**Hole Punch
Technical Data
page 86**

Please refer to flap on inside back cover for material definitions & other technical terms

Bolster Outfits

'Hunton' Bolster Outfits



Hunton Universal Bolster Outfits

Two outfits are available, designed to cut the cost of tooling when fitted to a flypress or power press

Category S

Price

No.1 Universal Bolster Outfit

£310.00

- The No. 1 outfit is the smaller of the two comprising a smaller bolster frame, three die holders, one punch holder and a support ring
- The maximum size of round tooling the No. 1 outfit will accommodate is 1.3/4"

No.2 Universal Bolster Outfit

£628.00

- The No. 2 outfit comprises a main bolster frame, two punch holders, five die holders, two support rings and a spanner
- The maximum size of round tooling the No. 2 outfit will accommodate is 3.3/4" dia. or shaped tooling to a similar overall size
- The gauges and gauge bars shown fitted to the bolster frames are optional extras

Bolster Outfit Components

Type 1 Bolster Frame

£151.00

- Accepts dies from 1.13/32" dia. to 1.3/4" dia. bore when supported by ring F
- Accepts die holders C, D & E
- Frame size 9" x 3.1/4"

Type 2 Bolster Frame

£287.00

- Accepts dies from 2.17/32" dia. to 3.1/2" dia. bore when supported by ring H
- Accepts die holders C,D,E,B and G
- The top face is drilled and tapped to take 6" square plate dies from 3.17/32" to 3.3/4" bore
- Frame size 14" x 6"

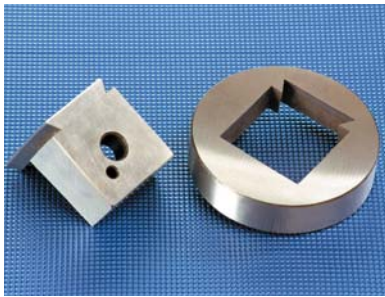
Component Description

Price

Type B Die Holder	holder for dies from 1.13/32" to 1.3/4" bore supported by ring F, and die holders C, D & E	£92.00
Type C Die Holder	holder for dies up to 1/2" bore	£49.50
Type D Die Holder	holder for dies from 17/32" to 3/4" bore	£40.70
Type E Die Holder	holder for dies from 25/32" to 1.3/8" bore	£40.70
Type G Die Holder	holder for dies 1.25/32" to 2.1/2" bore	£95.50
Type F Support Ring	fits in no. 1 frame or die holder B to support dies 1.13/32" to 1.3/4" bore	£15.50
Type H Support Ring	fits in no. 2 frame to support dies from 2.17/32" to 3.1/2" dia. bore	£16.50
Type I Punch Holder	for punches from 1/8" dia. to 2" dia.	£63.65
Type K Punch Holder	for punches from 2" dia. to 3.3/4" dia.	£118.00
Type M Spanner	for use on punch retaining nut on K punch holder	£8.25
No.1 Gauge - left or right	bolster outfit gauge - left or right	Each £64.00
No.1 Gauge Bars - 12" & 15"	bolster outfit gauge bars 12" & 15"	£27.00
No.2 Gauge - left or right	bolster outfit gauge - left or right	Each £64.00
No.2 Gauge Bars - 15" & 20"	bolster outfit gauge bars 15" & 20"	£27.00

SHEETMETAL WORKING EQUIPMENT AND TOOLS

Standard Tooling for use with the 'Hunton' No. 2 Bolster Outfit



Type DL Notching Tool

Category S
£520.00

Price

A leg guided tool for cutting rectangular pieces up to 2.1/4" x 2.1/8" deep in one operation from the corners of sheet metal panels prior to bending. It can also, by a series of cuts, be used for producing notches larger than its own size. The die size is made to fit direct into the type 2 frame (supported by ring H) and the top tool is bored to suit punch holder K. Special notch tools can be made to suit customer requirements.



Radius Cropping Tool

Category S

For cropping off to length and at the same time radiusing both sides of the cut of light mild steel bars and strip up to 3mm thick. Four standard tools are available with adjustable side gauges to accommodate intermediate widths. The punch has a 1" dia. shank and the bottom die fits direct into the type 2 frame. Note: Non-standard tools can also be supplied upon request - please contact our sales office.

Model No	Strip width (inches)	Radius (inches)	Price
RC1	1/4" to 1/2"	9/32"	£637.50
RC2	1/2" to 3/4"	13/32"	£637.50
RC3	3/4" to 1"	17/32"	£637.50
RC4	1" to 1 1/4"	21/32"	£637.50

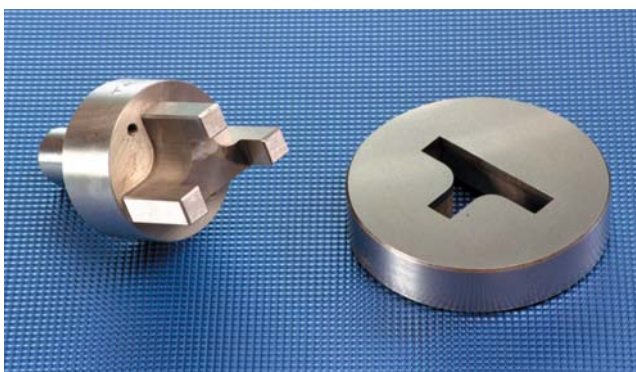
Louvre Tools

Category S

These tools are designed to pierce and form louvres in one single operation.

- Available in four standard lengths
- The standard gap / opening of 1/4" is the same for all four tools
- Lower die is held by screws to the top face of the type 2 bolster frame
- Louvre tools up to 4" can be drilled to suit the type 1 bolster frame
- Standard shank 1" dia.

Model No.	Louvre length (inches)	Louvre width (inches)	Price
LT2	2"	1/2"	£545.00
LT3	3"	9/16"	£568.00
LT4	4"	9/16"	£606.00
LT6	6"	3/4"	£670.00



Twin Radius Tools

Category S

These tools are designed to radius the corners of sheet panels with each tool giving two alternative radii and one straight cutting edge. Three leg guides on the punch ensure accurate alignment in the die. Four separate tools can be supplied from stock to produce the following radii shown below.

- The standard dies fit in the type 2 frame supported by ring H
- Standard top tools have 1" dia shanks

Note: Special twin or single radius tools can be made to order

Model No.	Radii (inches)	Price
TR1	1" & 7/8"	£505.00
TR2	3/4" & 5/8"	£505.00
TR3	1/2" & 3/8"	£505.00
TR4	1/4" & 1/8"	£505.00

Punches & Dies To Suit 'Hunton' Bolster Outfits



Special Tooling.

Tooling to drawing and/or to samples supplied, or even to sketches. Please see the examples below.

- Non-standard sizes of rounds, squares, rectangles and radius end punches and dies for different materials and thicknesses
- Any shape punch and die, e.g. triangle, hexagon, keyhole, diamond, single and double-D shapes, multi-piercing and forming tools, etc.
- Tooling for standard apertures in radio and electronic chassis, relays plugs, sockets, valve holders and terminals etc.
- Die-set tooling

Please contact our technical sales office with your ideas or requirements for assistance with design, and for budget prices.

Standard Punches & Dies.

Please see below for the round and shaped tooling we carry in stock. Note: for use on 16 swg material only.

Additional information:

- **Shear:** any punch being used for piercing can be supplied with a 'shear' type cutting edge which will extensively reduce the tonnage requirement when punching material of heavier gauges – available as an optional extra
- **Dies:** these are made for economy in six standard outside diameters to suit the bolster outfit components

Round Punches & Dies. Supplied in two different styles – please see below. Category S

Type A. Up to 2" or 50mm dia., these have a 9/16" dia. ground shank to fit punch holder **type I**. The punches are machined with a small centre point for location in centre-punched marks. If the material has been pre-drilled the punch can be supplied with a location pilot which is removable if necessary.

Type B. Over 2" or 50mm punches are made without shanks. These punches are bored with a centre hole through which the screwed spigot of punch holder **type K** passes. A counter-bored recess in the punch accommodates a nut which locks the punch firmly to the holder. The punch is prevented from turning by a dowel in the face of the holder, which locates in the back of the punch. The centre point or pilot is screwed into the end of the spigot.



Diameter	Price	Diameter	Price
2.0 mm to 12.5 mm punch and die	£24.20	38.5 mm to 44.5 mm punch and die	£69.70
13.0 mm to 19.0 mm punch and die	£39.40	45.0 mm to 50.0 mm punch and die	£103.00
19.5 mm to 25.0 mm punch and die	£45.40	50.5 mm and above - price on application	P.O.A.
25.5 mm to 31.5 mm punch and die	£61.10		
32.0 mm to 38.0 mm punch and die	£64.40		

Please contact our sales office for prices of punches & dies above 50.5 mm dia.

Square Punches & Dies. Category S

Squares: stock sizes from 1/4" to 2" square.

Square size	Price	Square size	Price
1/4" square punch and die	£86.00	7/8" square punch and die	£153.95
5/16" square punch and die	£86.00	1" square punch and die	£153.95
3/8" square punch and die	£86.00	1.1/4" square punch and die	£176.70
1/2" square punch and die	£86.00	1.1/2" square punch and die	£176.70
5/8" square punch and die	£90.70	2" square punch and die	£216.50
3/4" square punch and die	£90.70		



Rectangular Punches & Dies Category S

Rectangular slots: stock sizes available up to 2" x 1".

Rectangle size	Price	Rectangle size	Price
1/4" x 1/8" rectangular punch and die	£82.35	1" x 3/8" rectangular punch and die	£153.95
1/2" x 1/4" rectangular punch and die	£82.35	1" x 1/2" rectangular punch and die	£153.95
3/4" x 1/8" rectangular punch and die	£90.70	1.1/2" x 1/4" rectangular punch and die	£191.50
3/4" x 1/2" rectangular punch and die	£90.70	1.1/2" x 3/8" rectangular punch and die	£191.50
1" x 1/8" rectangular punch and die	£153.95	1.1/2" x 1/2" rectangular punch and die	£191.50
1" x 3/16" rectangular punch and die	£153.95	2" x 1/8" rectangular punch and die	£216.50
1" x 1/4" rectangular punch and die	£153.95	2" x 1/2" rectangular punch and die	£216.50
1" x 5/16" rectangular punch and die	£153.95	2" x 1" rectangular punch and die	£216.50

Radius End Punches & Dies Category S

Radius end slots: stock sizes available up to a maximum of 1/2" x 2".

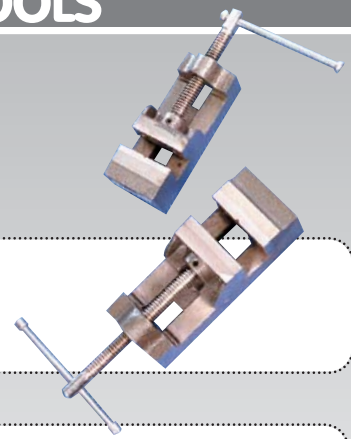
Radius end size	Price	Radius end size	Price
1/4" x 1/8" radius end punch and die	£86.10	1" x 1/8" radius end punch and die	£153.95
3/8" x 1/8" radius end punch and die	£86.10	1" x 3/16" radius end punch and die	£153.95
3/8" x 3/16" radius end punch and die	£86.10	" x 1/4" radius end punch and die	£153.95
3/8" x 1/4" radius end punch and die	£86.10	1" x 5/16" radius end punch and die	£153.95
1/2" x 1/8" radius end punch and die	£90.70	1" x 3/8" radius end punch and die	£153.95
1/2" x 3/16" radius end punch and die	£90.70	1" x 7/16" radius end punch and die	£153.95
1/2" x 1/4" radius end punch and die	£90.70	1" x 1/2" radius end punch and die	£153.95
1/2" x 5/16" radius end punch and die	£90.70	1.1/2" x 1/4" radius end punch and die	£176.25
1/2" x 3/8" radius end punch and die	£90.70	1.1/2" x 5/16" radius end punch and die	£176.25
5/8" x 5/16" radius end punch and die	£90.70	1.1/2" x 3/8" radius end punch and die	£176.25
3/4" x 1/8" radius end punch and die	£114.00	1.1/2" x 1/2" radius end punch and die	£176.25
3/4" x 3/16" radius end punch and die	£114.00	2" x 1/2" radius end punch and die	£216.50
3/4" x 1/4" radius end punch and die	£114.00		
3/4" x 5/16" radius end punch and die	£114.00		
3/4" x 3/8" radius end punch and die	£114.00		

VICES 'Astra' & 'Dinky'

'Dinky D' Vices

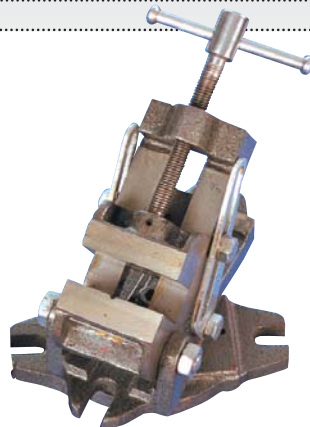
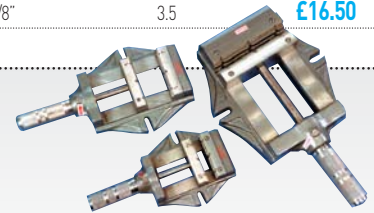
'Dinky D' Plain Vices No. 717P. Cast iron with special vee jaws to hold small and delicate parts. **Category G**

Model No.	Width of jaws	Depth of jaws	Opening of jaws	Weight kg	Price
DDP2.5	2.1/2"	1.1/2"	2.1/2"	2.5	£15.50



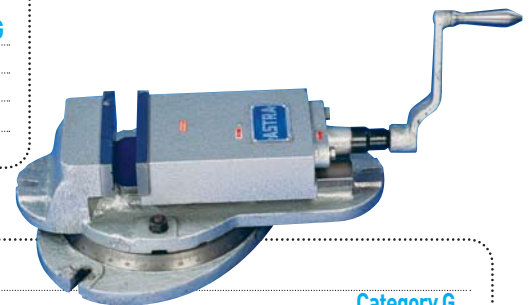
'Dinky D Gripfast' Vices No. 710. Cast iron with special vee jaws to hold small and delicate parts. **Category G**

Model No.	Width of jaws	Width of jaws	Opening of jaws		Overall length	Size of main casting	Weight kg	Price
			Lower portion	Upper portion				
DDGRI3	3.1/4"	1.1/16"	2.7/8"	3.1/8"	11"	7" x 6.1/8"	3.5	£16.50



'Dinky D' Plain & Universal Swivel Angle Vices Nos. 717A & 717SA **Category G**

Model No.	Description	Weight kg	Price
DDA	(717A) 2.1/2" wide jaws - angle base - swings up to 90°	4	£21.00
DDSA	(717SA) 2.1/2" wide jaws - swings up to 90° - base rotates 360°	5	£27.00



'Astra' Vices

'Astra S' Plain & Swivel Base Vices.

Totally enclosed lead screw and nut with hardened steel jaws.

Plain base vices			Swivel base vices			Technical info		
Model No.	Weight kg	Price	Model No.	Weight kg	Price	Width of jaws	Capacity between jaws	Depth of jaws
1/748P	12	£120.00	1/748SB	17	£136.00	4"	4"	1.3/8"
---	---	---	3/748SB	75	£270.00	8"	8"	2.1/8"
1/703P	100	£360.00	1/703SB	130	£360.00	10"	10"	2.3/4"
			2/703SB	195	£485.00	12"	12"	3"



'Astra S' Universal Tilt & Swivel Vices. **Category G**

Horizontal swivel movement 360° - vertical swivel movement 90°.

Model No.	Width of jaws	Capacity	Weight kg	Price
1/749	4"	4"	24	£150.00
2/749	6"	6"	44	£250.00

'Astra S' 3-Angle Universal Vices. Graduated on all planes. **Category G**

Model No.	Model size	Jaws open	Jaws depth	Overall height	Weight kg	Price
1/701A	4"	2.1/2"	1"	6.3/4"	8	£250.00
2/701A	6"	4.1/2"	1.1/2"	8.3/4"	22	£250.00



CATALOGUE TERMS

General Terms

- As it is our policy to maintain a programme of continuous improvement, it is possible that the specification of some products supplied may differ slightly from the description stated in this publication.
- Prices exclude VAT.
- This cancels all previous price lists.
- We reserve the right to change prices without notice.
- Please scan the QR codes to check for price updates.

Payment Terms

- No minimum order charge for account customers.
- Approved monthly accounts to be settled at 30 days from the date of invoice.
- A £16.00 minimum order value will apply to cash and credit card transactions.
- For cash sale transactions, cheques will be cleared prior to despatch of the goods.

Conditions Of Sale

This catalogue is subject to our standard conditions of sale. To obtain a copy of our terms & conditions please contact our sales office by phone, fax or email.

CARRIAGE CHARGES

UK Mainland Deliveries

Parcels up to 2kg will be sent 1st class post unless specified otherwise. Orders from 2kg to 40kg will be despatched on a guaranteed next-day delivery basis. Pallets will be delivered within 1-3 days from the date of despatch.

Standard Charges

- 1st class postage charge £6.00 minimum.
- Next day carriage charge £12.00 minimum.
- Next day a.m. carriage charge £25.00 minimum.
- Carriage is charged on all orders of less than £500.00 nett goods invoice value.
- Orders in excess of £500.00 nett goods invoice value, consisting of more than one item, will be delivered free of charge. Exceptions will apply to very heavy items and consignments requiring a pallet.

IGE Carriage Charges

KG	Price	KG	Price
20	£12.00	31	£16.20
21	£12.40	32	£16.50
22	£12.80	33	£16.80
23	£13.20	34	£17.10
24	£13.60	35	£17.40
25	£14.00	36	£17.70
26	£14.40	37	£18.00
27	£14.80	38	£18.30
28	£15.20	39	£18.60
29	£15.60	40	£18.90
30	£15.90	0.30p per kg thereafter	

Pallet Charges

- England & Wales £50.00 per pallet minimum.
- Scotland £55.00 per pallet minimum.
- Scottish Highlands – please contact us for a quote.

Pallet Charges

KG	Price
25 to 40	£50.00
41 to 150	£55.00
151 to 300	£72.00
301 to 500	£89.00

General Technical Information

Materials:

ALU = aluminium
ABS = acrylonitrile butadiene styrene
CVS = chrome vanadium steel
EPDM (EPT) = ethylene propylene diene monomer
HPDE = high density polyethylene
LDPE = light density polyethylene
MDPE = medium density polyethylene
M.S. = mild steel
NBR = nitrile butadiene rubber
PE = polyethylene
POM = polyoxymethylene
PP = polypropylene
PPS = polyphenylene sulphide (better known as Ryton)
PTFE = polytetrafluoroethylene (better known as Teflon)
PU = polyurethane
PVC = polyvinyl chloride
PVDF = polyvinylidene fluoride
SS = stainless steel

General Terms:

BP = burst pressure
HP = high pressure
WP = working pressure
cSt = centistokes
i/d = inside diameter
o/d = outside diameter
swg = standard wire gauge (i.e. the 'gauge' or thickness of a piece of steel)

Thread Forms:

BSF = British standard fine
BSP = British standard pipe
BSPF = British standard pipe – female thread
BSPM = British standard pipe – male thread
BSW = British standard Whitworth
UNF = Unified fine thread



High Volume Consignments (HVC)

All carriers now operate a pricing system based on the cubic mass of the consignment rather than the weight. This means, for instance, that, where a quantity of containers such as jerry cans is involved, the cube to weight ratio is disproportionately high and therefore extremely expensive on a cost-to-weight basis. Please contact us for a quote for the freight cost of any items in our brochure marked 'HVC' prior to placing an order. You may also wish to explore the possibility and cost of arranging your own collection.

Offshore Deliveries

Please contact us for a quote for carriage to all offshore destinations.

VAT

VAT is payable on all carriage charges.

Phone the Order Line

0161 303 7394



GENERAL INFORMATION & DATA

TONNAGE CALCULATION CHART & HOLE PUNCH TECHNICAL DATA

Tons of pressure required to punch mild steel.

This chart should be used to calculate the punching tonnage required for various applications, both manual and power assisted.

1. First select your hole diameter from the scale running horizontally across the top of the chart.
2. Then read down the scale on the left hand side of the chart to find your material thickness.
3. The figure shown in red at the intersection of these two figures is the tonnage requirement. (e.g. a 1/2" dia. hole through 3mm mild steel requires 4.7 tons of pressure).

		Hole Diameter																						
		inches	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	11/16"	3/4"	13/16"	7/8"	15/16"	1"	1.1/2"	2"	2.1/2"	3"	3.1/2"	4"	
Material Thickness	gauge	inches	mm	0.4	0.5	0.7	0.9	1.1	1.2	1.4	1.6	1.8	1.9	2.1	2.3	2.5	2.6	2.8	4.2	5.6	7.0	8.5	9.9	11.3
	20	0.036	0.91	0.4	0.5	0.7	0.9	1.1	1.2	1.4	1.6	1.8	1.9	2.1	2.3	2.5	2.6	2.8	4.2	5.6	7.0	8.5	9.9	11.3
	18	0.048	1.22	0.5	0.7	0.9	1.2	1.4	1.6	1.9	2.1	2.4	2.6	2.8	3.1	3.3	3.5	3.8	5.5	7.5	9.4	11.3	13.0	15.0
	16	0.062	1.57	0.6	0.9	1.2	1.5	1.8	2.1	2.3	2.6	2.9	3.2	3.5	3.8	4.1	4.4	4.7	7.0	9.5	11.7	14.0	16.5	18.8
	14	0.075	1.90	0.7	1.1	1.5	1.8	2.2	2.6	2.9	3.3	3.7	4.0	4.4	4.8	5.1	5.5	5.9	8.8	11.7	14.7	17.6	20.5	23.5
	12	0.105	2.67	1.0	1.5	2.1	2.6	3.1	3.6	4.1	4.6	5.1	5.7	6.2	6.7	7.2	7.7	8.2	12.3	16.4	20.5	24.5	28.8	32.8
	11	0.120	3.05	1.2	1.8	2.4	2.9	3.5	4.1	4.7	5.1	5.9	6.2	7.1	7.6	8.3	8.8	9.4	14.0	18.8	23.5	28.2	32.7	37.6
	10	0.135	3.43	1.3	2.0	2.6	3.3	4.0	4.6	5.3	5.9	6.6	7.3	7.9	8.6	9.2	9.9	10.6	15.9	21.0	26.5	31.7	37.0	42.2
	3/16"	0.188	4.78	n/a	2.8	3.7	4.6	5.5	6.4	7.4	8.3	9.2	10.1	11.0	12.0	12.9	13.8	14.8	22.0	29.5	36.8	44.2	51.5	60.0
	1/4"	0.250	6.35	n/a	n/a	4.9	6.1	7.4	8.6	9.8	11.1	12.3	13.5	14.7	16.0	17.2	18.4	19.7	34.4	39.3	49.0	60.0	68.7	78.5
	5/16"	0.312	7.92	n/a	n/a	n/a	7.8	9.2	10.7	12.3	13.9	15.4	17.0	18.5	20.0	21.5	23.0	24.6	43.0	49.0	61.5	73.5	86.0	98.0
	3/8"	0.375	9.52	n/a	n/a	n/a	n/a	11.1	12.8	14.8	16.5	18.5	20.2	22.1	23.8	25.8	27.5	29.5	51.5	59.0	73.6	88.4	103.0	118.0
	1/2"	0.500	12.7	n/a	n/a	n/a	n/a	n/a	19.7	22.0	24.6	26.9	29.5	31.8	34.4	36.8	39.4	68.8	78.5	98.2	118.0	137.0	1.6	

Selecting a Punch or Press

The following information, while not totally applicable to all manually operated tools included in this publication, is provided as a convenient general reference for metal punching operations up to and including large power presses.

Hole Size x Material Thickness

Punching holes in metal is the fast, economical way to get precise hole size, smoothness and minimum burr. Compressive strength of the punch steel determines that the thickness of the metal being punched must not exceed the diameter of the punch. This relationship varies with the type of material. For example: the minimum hole diameter will be 1/4" in 1/4" mild steel, 1/4" in 3/16" stainless steel, and 1/4" in 5/16" aluminium.

Maximum Rated Capacity

All punching tools have their maximum capacities for safe, dependable operation over a long time span. Tools listed in this brochure have a "rated capacity" based on their design strength. Before selecting a tool, use the following information and refer to our "Tonnage Calculation Chart" above to determine the specific tonnage required to punch the size and shape holes through the type and gauge of material being considered. These figures are for flat punch points - shear on the punches [see following section headed 'Shear Punches'] will reduce the tonnage requirement.

Determining Tonnages

For Round Holes: to determine tonnages for hot rolled mild steel (typically used in bar size angle iron, channels and tees) with a 50,000 psi shear strength, read direct from our "Tonnage Calculation Chart" above.

Other Materials: for materials other than mild steel select the proper multiplier from the chart below, and apply it to the tonnage required for mild steel shown in our "Tonnage Calculation Chart" above.

Metal Type	Multiplier
Aluminium (2024-0)	0.36
Brass (1/4 hard)	0.70
Copper (1/2 hard)	0.52
Steel (50% carbon)	1.60
Steel, cold drawn (1018)	1.24
Steel, ASTM-A36	1.20
Steel, stainless (303)	1.50
Example: 1" round hole thro' 26 ga. Aluminium (2024-0) 1.4 x 0.36 = 0.5 tons	

Selecting a Punch or Press

For punching irregular shaped holes (square, rectangular, radius end, triangular, etc.) multiply the length of metal to be cut by the multiplier given for a 1" length in the chart below.

Example: The shear length, or total distance around, a 1" x 2" rectangular hole = 6". To punch such a hole in 20 gauge mild steel 6" x 1.01 = 6.06 tons. For stainless steel this would be 6" x 1.50 = 9.0 tons.

Metal Gauge	Mild Steel Multiplier	Stainless Steel Multiplier	Brass Multiplier
20	1.01	1.50	0.75
18	1.25	1.75	1.00
16	1.75	2.50	1.25
13	2.50	3.50	2.00
11	3.25	4.75	2.25
3/16"	4.25	7.00	3.25
1/4"	6.25	9.50	4.50
5/16"	8.00	12.00	5.50
3/8"	9.50	14.25	6.25
7/16"	11.00	15.50	7.75
1/2"	12.50	18.75	8.75
5/8"	15.75	23.50	11.00
3/4"	18.75	28.25	13.25
7/8"	22.00	33.00	15.50
1"	25.00	37.50	17.50

Die Clearance

The relationship of the large die hole size to the punch size is die clearance and is stated as a percentage of the thickness of the material being punched. The range of clearances varies from 10% for thin materials to 20% for thicker materials. For 3/4" material the total die clearance is 0.150". Clearance should always be specified when there is any reason for doubt.

Die clearance has the following effects:

too much clearance

1. extra roll-in at the top of the hole
2. too much burr at the bottom of the hole

too little clearance

1. more punching pressure needed - can reduce tool life
2. high stripping force causes part distortion and extra punch wear

correct clearance

1. straighter hole through material
2. minimum distortion at the top of the hole
3. minimum burr at the bottom of the hole

Effects of die clearance are more noticeable in thicker materials (such as 1/4") than in thinner materials (such as 14 gauge). If you are unsure as to what clearance you should allow for, please contact our technical sales office.

Shear Punches

Shear may be added to almost any punch 1/2" or larger to reduce the shock load on machine components and the punch & die, and increase their life expectancy. Shear, in essence, proportions the force through part of the stroke length of the ram - much less material is being cut at any one time than would be a punch without shear. (There is no advantage in adding shear to a punch smaller than 1/2"). Shear is most effective when punching 14 gauge or lighter materials and can reduce the punching force by as much as 50%.

FLUID COMPATIBILITY CHART

These recommendations are based upon information from material suppliers and careful examination of available published information and are believed to be accurate. However, since the resistance of metals, plastics and elastomers can be affected by concentration, temperature, presence of other chemicals and other factors, this information should be considered as a general guide only, rather than an unqualified guarantee. Ultimately the customer must determine the suitability of the pump used in various solutions. IGE offers this data sheet as an aid and a guide only and takes no responsibility for customers' pump selection based upon the information contained herein.

All recommendations assume ambient temperatures unless otherwise noted.

RATINGS – CHEMICAL EFFECT

A – No effect – Acceptable

B – Minor effect – Acceptable

C – Moderate effect – Questionable

D – Severe effect – Not Recommended

1. P.V.C – Satisfactory to 72° F.

2. Polypropylene – Satisfactory to 72° F.

3. Polypropylene – Satisfactory to 120° F.

4. Buna-N – Satisfactory for "O" Rings.

5. Polyacetal – Satisfactory to 72° F.

6. Ceramag – Satisfactory to 72° F.

The ratings for these materials are based upon the chemical resistance only. Added consideration must be given to pump selections when the chemical is abrasive, viscous in nature, or has a Specific Gravity greater than 1.1

	302 Stainless Steel	304 Stainless Steel	316 Stainless Steel	440 Stainless Steel	Aluminum	TITANIUM	HASTELLOY C	Cast Bronze	Brass	Cast Iron	Carbon Steel	PVC (Type 1)	Tygon (E-3606)	Teflon	Noryl	Polyacetal	Nylon	Cyrolac (ABS)	Polyethylene	POLYPROPYLENE	RYTON	CARBON	CERAMIC	CERAMAGNET "A"	VITON	BUNA N (NITRILE)	Silicon	Neoprene	Ethylene Propylene	Rubber (Natural)	Epoxy	
Acetalehyde ⁵	A	A	A	-	B	A	A	D	-	-	C	D	D	A	-	A	A	D	C	B	A	A	A	-	A	B	B	D	B	C	A	
Acetamide	-	B	A	-	-	-	-	-	-	-	C	-	-	-	-	B	-	-	-	-	-	-	-	A	-	A	A	-	A	D	A	
Acetate Solv. ²	A	B	A	B	B	-	-	A	C	B	A	B	D	A	-	A	-	B	D	-	A	A	-	D	D	-	D	-	-	-	A	
Acetic Acid, Glacial ¹	-	B	A	A	B	A	A	C	C	D	A	C	B	A	C	D	D	D	B	B	A	A	A	-	D	D	B	C	B	C	B	
Acetic Acid 20%	-	-	A	-	-	A	A	-	C	-	-	B	-	A	A	-	D	-	-	A	A	-	A	-	D	C	-	C	-	-	B	
Acetic Acid 80%	-	-	A	-	-	A	A	-	C	-	-	D	-	A	B	-	D	-	-	B	-	-	-	A	-	D	C	-	D	-	-	B
Acetic Acid	-	B	A	B	B	A	A	C	C	D	C	A	B	A	A	D	D	C	B	A	A	A	A	-	C	C	-	C	B	C	A	
Acetic Anhydride	B	A	A	B	B	A	A	C	D	B	D	D	D	A	D	D	D	D	A	A	A	A	A	-	D	A	C	B	B	C	A	
Acetone ³	A	A	A	B	A	A	A	A	A	A	A	D	D	A	D	B	A	D	C	B	A	A	A	A	D	D	B	C	A	D	B	
Acetyl Chloride	-	C	A	-	-	-	D	-	-	-	-	-	-	A	-	-	-	-	-	A	-	-	-	-	-	-	-	-	-	-	A	
Acetylene ²	A	A	A	A	A	-	-	B	-	A	A	B	-	-	-	A	A	-	-	D	A	A	A	-	A	A	C	B	A	C	A	
Acrylonitrile	A	A	C	-	B	-	B	A	-	C	-	-	-	-	-	B	-	D	-	B	A	A	A	-	C	D	-	D	D	-	A	
Alcohols																																
Amyl	A	A	A	-	C	A	A	A	B	C	C	A	B	A	C	A	A	B	B	B	A	A	A	-	A	A	D	A	A	C	A	
Benzyl	-	A	A	-	B	A	A	A	C	-	-	D	B	-	A	A	A	D	D	A	-	A	A	-	A	D	-	B	B	D	A	
Butyl	A	A	A	-	B	B	A	B	C	C	C	A	B	A	A	A	A	-	B	B	A	A	A	-	A	A	D	A	A	A	A	
Diacetone ²	-	A	A	-	A	A	A	A	C	-	A	D	-	-	A	A	A	-	-	D	-	A	A	-	D	D	-	D	A	D	A	
Ethyl (Ethanol)	-	A	A	A	B	A	A	A	C	A	A	A	C	-	A	B	A	B	B	A	-	A	A	A	A	A	B	A	B	A	A	
Hexyl	-	A	A	-	A	A	A	A	C	-	A	A	-	-	A	A	A	-	-	A	-	-	A	-	A	A	D	B	A	A	A	
Isobutyl	-	A	A	-	B	A	A	A	C	-	A	-	-	-	A	A	A	B	-	-	-	-	A	A	-	A	C	B	A	A	A	
Isopropyl	-	A	A	-	B	A	A	A	C	C	A	-	-	-	A	A	A	-	-	A	-	-	A	-	A	C	C	B	A	A	A	
Methyl ⁴ (Methanol)	-	A	A	A	B	A	A	A	C	A	A	B	-	A	A	C	A	D	B	A	-	A	A	A	C	B	-	A	A	A	A	
Octyl	-	A	A	-	A	A	A	A	C	-	A	-	-	-	A	A	A	-	-	-	-	-	A	-	A	B	-	B	A	C	A	
Propyl	-	A	A	-	A	A	A	A	-	-	A	A	-	-	A	A	A	-	-	A	-	-	A	-	A	A	B	A	A	A	A	
Aluminum Chloride 20%	-	D	C	D	B	A	A	D	-	D	A	A	B	-	A	C	A	-	B	A	A	A	-	A	A	-	A	A	-	A	A	
Aluminum Chloride	C	D	C	-	D	C	A	C	-	D	B	A	A	A	A	-	D	-	-	A	A	A	-	A	A	C	A	-	-	-	-	
Aluminum Fluoride	-	D	C	D	-	D	B	-	-	-	A	A	-	-	A	A	C	D	-	B	A	-	A	-	A	C	A	-	C	-	-	
Aluminum Hydroxide ⁶	-	A	A	A	A	-	-	A	-	D	A	A	-	-	A	A	B	A	-	-	A	-	A	A	A	A	-	A	-	A	-	-
Alum Potassium Sulfate (Alum), 10%	-	A	-	-	A	-	B	-	-	D	A	A	-	-	A	-	A	-	A	-	-	A	A	-	A	-	-	A	-	-	-	
Alum Potassium Sulfate (Alum), 100%	-	D	A	B	B	-	B	C	-	-	A	A	B	A	A	C	D	-	B	A	-	A	A	-	A	A	-	A	-	-	-	
Aluminum Sulfate	-	C	C	A	A	A	A	C	C	D	A	A	B	A	A	C	A	-	B	A	A	A	-	A	A	-	A	A	-	-	-	
Amines	A	A	A	-	A	B	A	B	-	A	B	C	A	A	B	D	A	-	-	-	-	-	A	-	D	D	C	B	B	C	-	
Ammonia 10%	-	-	A	-	-	A	A	-	-	-	-	A	-	-	A	A	-	A	-	-	-	A	-	A	-	A	D	-	-	-	-	
Ammonia, Anhydrous	A	B	A	A	B	B	A	D	-	D	B	A	B	A	A	D	A	-	B	A	B	C	A	-	D	B	B	A	A	D	-	
Ammonia, Liquids	-	A	A	A	D	-	B	D	-	A	A	A	B	A	A	D	-	-	D	A	-	A	A	-	D	B	B	A	A	D	-	
Ammonia, Nitrate	-	A	A	A	C	-	-	D	-	-	A	B	B	-	A	C	-	-	-	A	-	A	-	A	-	A	-	C	-	-	-	
Ammonium Bifluoride	-	C	A	-	D	-	B	-	-	-	-	A	-	-	A	D	-	-	-	-	-	-	A	-	A	-	A	-	-	-	-	
Ammonium Carbonate	B	A	A	A	C	A	B	B	-	C	B	A	B	A	A	D	A	-	-	A	-	A	-	B	D	C	A	A	-	-	-	
Ammonium Casenite	-	-	A	-	-	-	-	-	-	-	-	-	-	-	A	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ammonium Chloride	C	A	C	A	C	A	A	D	C	D	D	A	B	A	A	B	A	-	B	A	A	A	-	A	A	C	A	A	A	-	-	
Ammonium Hydroxide	A	A	A	A	C	A	A	D	D	A	C	A	B	A	A	D	A	B	B	A	A	A	-	B	B	B	A	A	A	C	-	
Ammonium Nitrate	A	A	A	A	B	A	A	D	D	A	D	A	B	A	A	C	D	-	B	A	A	A	-	A	-	A	C	A	A	-	-	
Ammonium Oxalate	-	A	A	A	-	-	A	-	-	-	A	-	-	-	-	B	-	-	-	-	-	-	A	-	A	-	A	-	-	-	-	
Ammonium Persulfate	-	A	A	A	C	A	A	A	-	D	A	A	-	-	A	A	D	D	-	-	A	-	A	-	C	A	-	A	A	-	-	
Ammonium Phosphate, Dibasic	B	A	A	A	B	A	A	C	-	-	D	A	-	-	A	A	B	A	-	B	A	-	A	-	A	B	A	A	-	-	-	
Ammonium Phosphate, Monobasic	-	A	A	A	B	A	A	D	-	-	A	A	A	A	B	A	-	-	B	A	-	A	-	A	-	A	B	A	A	-	-	
Ammonium Phosphate, Tribasic	B	A	A	A	B	A	A	C	-	C	D	A	-	-	A	A	B	A	-	B	A	-	A	-	A	B	A	A	-	-	-	
Ammonium Sulfate	C	A	B	A	B	A	A	B	C	C	C	A	D	A	A	B	D	-	B	A	A	A	-	D	A	B	A	A	-	-	-	
Ammonium Thio-Sulfate	-	-	A	-	-	A	-	-	-	D	A	-	-	-	B	-	-	-	-	-	-	-	A	-	A	-	A	-	-	-	-	
Amyl-Acetate	B	A	A	C	B	A	A	C	-	-	C	D	D	A	D	A	B	-	D	D	A	A	-	D	D	D	D	A	D	-	-	
Amyl Alcohol	-	A	A	-	B	A	A	A	-	-	A	D	A	B	A	C	A	A	-	B	A	-	A	-	B	B	D	A	A	C	-	
Amyl Chloride	-	C	B	-	D	-	A	A	-	-	A	D	C	A	D	A	C	-	D	D	-	A	A	-	A	D	D	D	D	-	-	

GENERAL INFORMATION & DATA

	302 Stainless Steel	304 Stainless Steel	316 Stainless Steel	440 Stainless Steel	Aluminium	TITANIUM	HASTELLOY C	Cast Bronze	Brass	Cast Iron	Carbon Steel	PVC (Type 1)	Tygon (E-3606)	Teflon	Noryl	Polyacetal	Nylon	Cycloc (ABS)	Polyethylene	POLYPROPYLENE	RYTON	CARBON	CERAMIC	CERAMAGNET "A"	VITON	BUNA N (NITRILE)	Silicon	Neoprene	Ethylene Propylene	Rubber (Natural)	Epoxy			
Aniline	B	A	A	A	C	C	B	C	-	-	C	D	D	A	D	D	C	D	C	B	A	A	A	-	D	D	C	D	B	D	-			
Anti-Freeze	-	A	A	-	A	-	A	B	B	B	C	A	B	A	A	A	A	B	A	A	A	A	A	A	A	A	C	A	A	A	-			
Antimony Trichloride	-	D	D	-	D	-	A	-	-	-	-	A	A	A	-	D	-	A	-	-	-	-	A	-	-	-	-	C	-	A	-			
Aqua Regia (80% HCl, 20% HNO)	-	D	D	-	D	A	D	D	-	-	-	D	D	A	D	D	D	-	D	C	-	-	D	-	C	D	C	D	D	D	-			
Arochlor	-	-	-	-	-	-	-	-	-	-	A	-	-	-	D	-	-	-	-	-	-	-	A	-	-	A	D	-	D	B	D	-		
Aromatic Hydrocarbons	-	-	A	-	A	-	-	A	-	A	A	D	-	-	D	A	-	-	C	-	-	A	-	-	A	D	-	D	D	D	-			
Arsenic Acid	B	A	A	-	D	-	-	D	B	D	D	A	B	A	A	D	A	-	B	A	-	A	A	A	A	A	-	A	-	A	-	C	-	
Asphalt	-	B	A	-	C	-	-	A	-	C	-	A	-	-	-	A	A	-	-	A	A	-	A	A	A	B	C	B	D	D	-			
Barium Carbonate	B	A	A	A	B	A	A	B	-	B	B	A	A	A	A	A	A	-	B	A	-	A	A	A	A	A	-	A	-	A	-	A	-	
Barium Chloride	C	A	A	A	D	A	A	B	-	N	C	A	B	A	A	A	B	-	B	A	A	A	A	-	A	A	B	A	A	A	-	A	-	
Barium Cyanide	-	-	A	-	-	-	-	C	-	-	A	-	-	-	B	-	-	-	B	-	-	A	-	A	C	-	A	-	A	-	A	-		
Barium Hydroxide	B	C	A	A	D	B	B	B	-	C	C	A	-	A	A	D	A	-	-	B	A	A	A	A	A	A	C	A	A	A	-	A	-	
Barium Nitrate	-	A	A	-	-	A	-	D	-	A	A	B	-	-	A	A	-	-	-	-	-	-	A	A	-	A	A	-	A	-	A	-	A	-
Barium Sulfate	B	A	A	A	D	A	A	C	-	C	C	A	-	A	A	A	A	-	B	A	A	A	B	-	A	A	D	A	A	-	-	-	-	
Barium Sulfide	B	A	A	-	D	-	-	C	-	C	C	A	A	A	A	A	-	B	A	-	A	A	-	A	A	C	A	A	A	-	-	-		
Beer ²	A	A	A	-	A	A	A	B	D	A	D	A	-	A	A	B	D	B	B	D	-	A	A	-	A	D	C	A	A	A	-	-		
Beet Sugar Liquids	A	A	A	-	A	-	-	A	B	A	-	A	-	A	A	B	A	B	-	A	-	A	A	-	A	A	-	B	A	A	A	-		
Benzaldehyde ³	A	A	A	-	B	A	A	A	-	B	A	D	D	A	D	A	C	D	D	D	A	A	A	-	D	D	B	D	A	D	A	-		
Benzene ³	B	A	A	A	B	A	B	B	A	B	C	D	C	A	D	A	A	D	D	D	A	A	A	A	A	D	-	D	D	D	A	-		
Benzoic Acid ²	B	A	A	A	B	A	A	B	-	D	-	A	B	A	A	B	D	-	B	D	-	A	B	-	A	D	-	D	D	D	A	-		
Benzol	-	A	A	-	B	A	A	B	A	-	-	D	-	A	D	A	A	-	-	A	A	A	A	A	D	D	-	D	-	-	-	A	-	
Borax (Sodium Borate)	-	A	A	A	C	-	A	A	B	A	C	A	A	A	A	A	A	-	B	A	A	A	A	A	A	B	C	A	A	C	A	-		
Boric Acid	B	A	A	A	B	A	A	B	C	D	-	A	B	A	A	A	A	-	B	A	-	A	A	A	A	A	-	A	A	A	A	-		
Brewery Stop	-	-	A	-	-	-	-	A	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bromine ² (wet)	D	D	D	D	D	A	A	C	-	D	D	B	B	A	D	D	D	D	D	D	D	D	D	A	D	A	D	D	D	D	D	C	-	
Butadiene	A	A	A	-	A	-	-	C	A	C	C	A	-	A	-	A	A	-	-	-	B	A	A	-	A	A	-	B	A	-	A	-		
Butane ²¹	A	A	A	-	A	-	-	A	A	C	C	A	C	A	D	A	A	B	C	D	A	A	A	-	A	A	D	B	D	D	A	-		
Butanol	-	A	A	-	A	-	-	A	A	-	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Butter	-	B	A	-	A	-	-	D	-	D	-	-	B	-	B	A	-	B	-	-	-	-	-	-	A	A	-	B	A	D	A	-		
Buttermilk	A	A	A	A	A	-	-	D	-	D	-	-	B	A	A	A	A	B	-	-	-	-	A	A	-	A	A	-	A	-	D	A	-	
Butylene	A	-	A	-	A	-	-	A	A	A	A	B	-	A	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Butyl Acetate ¹	-	-	C	-	A	-	-	A	A	-	-	A	D	D	A	D	A	-	-	C	D	A	A	A	-	D	B	D	D	B	D	A	-	
Butyric Acid ¹	B	B	A	A	B	A	A	C	-	D	-	B	-	A	A	C	D	D	-	A	-	A	D	-	D	D	-	D	B	-	A	-		
Calcium Bisulfate	C	D	A	-	D	-	-	D	D	D	-	A	A	A	-	-	A	-	-	-	-	-	-	-	-	-	A	C	C	-	A	-		
Calcium Bisulfide	-	-	B	-	C	A	A	C	-	-	-	A	-	A	A	C	A	-	B	A	-	A	A	-	A	A	-	A	D	-	A	-		
Calcium Bisulfite	-	D	A	-	C	A	A	C	-	-	-	A	-	A	A	-	A	-	-	A	-	-	A	-	A	A	-	A	-	-	-	-		
Calcium Carbonate	B	A	A	A	C	A	A	C	-	D	-	A	A	A	A	A	A	-	B	A	-	A	A	-	A	A	-	A	A	-	A	-		
Calcium Chlorate	-	C	A	-	-	B	C	-	-	-	-	A	A	A	-	-	A	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-		
Calcium Chloride	C	A	D	C	C	A	A	B	-	C	-	A	A	A	A	D	A	B	B	A	A	A	B	A	A	B	D	A	A	A	-	-		
Calcium Hydroxide	B	A	A	-	C	A	A	B	-	-	-	A	A	A	A	B	A	-	B	A	-	A	A	A	A	A	C	A	A	A	-	-		
Calcium Hypochlorite	D	A	C	C	C	A	B	D	-	D	-	D	-	A	A	D	D	-	B	A	-	A	A	-	A	B	C	D	A	C	A	-		
Calcium Sulfate	B	A	A	A	B	A	B	B	-	-	-	A	A	A	A	A	C	B	A	A	A	-	A	A	-	A	A	-	D	-	C	A	-	
Calgon	-	A	A	-	-	-	-	C	-	D	-	-	-	A	B	-	-	-	A	-	-	-	A	A	-	A	A	-	A	-	-	-	-	
Cane Juice ²	-	A	A	-	B	-	-	B	C	A	-	A	-	-	A	A	-	-	D	-	A	A	-	-	A	-	A	-	A	-	-	-		
Carbolic acid (See Phenol)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Carbon Bisulfide ²	B	A	A	A	A	-	-	C	-	B	-	D	D	-	A	A	-	-	D	-	A	A	A	A	D	-	D	D	D	A	-	-		
Carbon Dioxide (Wet)	-	A	A	-	C	-	-	A	C	C	C	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Carbon Disulfide ²	-	B	A	-	C	-	-	C	C	B	C	D	C	A	D	A	A	-	D	D	A	A	B	-	A	D	-	D	D	D	A	-		
Carbon Monoxide	-	A	A	-	A	-	-	-	-	-	-	A	-	-	B	A	A	-	B	A	-	A	A	-	A	A	B	B	A	C	A	-		
Carbon Tetrachloride ²¹	B	C	B	A	C	A	A	C	A	C	D	C	C	A	D	A	A	D	D	D	C	A	A	A	A	C	C	D	-	D	C	-		
Carbonated Water	B	A	A	A	A	-	-	B	-	D	-	A	-	-	A	A	A	-	-	A	-	A	A	-	A	A	-	A	-	A	-	-		
Carbonic Acid	B	A	B	A	A	-	-	A	B	-	D	-	A	-	A	A	A	-	B	A	-	A	A	-	A	B	B	A	A	A	-	-		
Catsup	-	A	A	A	D	-	-	C	-	D	-	A	-	-	A	B	A	B	-	A	-	A	A	-	A	A	-	C	-	-	-	-		
Chloroacetic Acid ²	D	D	D	D	C	A	A	D	-	D	-	A	D	A	-	D	D	-	D	D	-	A	A	-	A	D	-	D	B	D	B	-		
Chloric Acid	-	D	D	-	-	-	-	-	-	-	-	D	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Chlorinated Glue	-	A	A	-	D	-	-	C	-	D	-	-	-	-	C	-	C	D	-	-	-	-	-	-	-	-	-	D	B	D	A	-		
Chlorine, Anhydrous Liquid	-	D	D	D	D	D	A	D	-	C	-	D	B	A	A	D	D	-	D	D	C	A	D	-	A	D	-	D	B	D	B	-		
Chlorine (Dry)	B	A	A	-	D	D	A	A	B	A	-	-	-	A	-	-	-	-	-	-	-	C	A	A	-	D	-	-	D	-	D	-		
Chlorine Water	D	-	D	-	D	A	B	D	D	D	-	A	-	A	C	-	D	-	D	C	A	-	-	-	-	-	-	-	-	-	-	-		
Chlorobenzene (Mono)	A	A	A	-	B	-	-	A	B	-	B	C	D	D	A	D	A	A	D	D	D	A	A	-	A	D	-	D	D	D	A	-		
Chloroform	A	A	A	A	D	A	A	B	-	D	C	D	C	A	D	A	C	D	D	D	C	A	A	A	A	D	D	D	D	D	A	-	-	
Chlorosulfonic Acid ¹	D	D	-	D	D	A	B	D	-	-	D	C	C	A	D	D	D	-	D	D	D	-	C	-	D	D	D	D	D	D	C	-		
Chlorox (Bleach)	-	A	A	-	C	-	-	A	A	-	D	C	A	B	A	A	D	D	B	-	D	C	A	A	-	A	C	-	B	B	D	A	-	
Chocolate Syrup	-	A	A	-	A	-	-	-	D	-	-	-	-	-	A	A	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-		
Chromic Acid 5%	-	A	A	B	C	A	A	D	D	D	-	A	B	-	C	D	D	B	B	A	A	D	C	-	A	D	C	D	A	B	B	-		
Chromic Acid 10%	-	B	-	-	-	A	A	-	D	-	-	A	-	A	A	-	D	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-		
Chromic Acid 30%	-	B	-	-	-	A	A	-	D	-	-	A	-	A	D	-	D	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-		
Chromic Acid 50%	C	B	B	-	C	A	A	D	D	D	-	B	B	A	D	D	C	C	B	B	D	A	-	A	D	-	D	A	D	C	-	-		



	302 Stainless Steel	304 Stainless Steel	316 Stainless Steel	440 Stainless Steel	Aluminum	TITANIUM	HASTELLOY C	Cast Bronze	Brass	Cast Iron	Carbon Steel	PVC (Type 1)	Tygon (E-3606)	Teflon	Noryl	Polyacetal	Nylon	Cycloc (ABS)	Polyethylene	POLYPROPYLENE	RYTON	CARBON	CERAMIC	CERAMAGNET "A"	VITON	BUNA N (NITRILE)	Silicon	Neoprene	Ethylene Propylene	Rubber (Natural)	Epoxy				
Copper Nitrate	B	A	A	B	D	A	A	D	-	-	-	A	-	A	A	B	D	-	B	A	-	A	A	-	A	A	-	A	-	-	A				
Copper Sulfate (5% Solution)	-	A	A	A	D	A	A	D	D	D	-	A	-	A	A	B	D	-	B	A	A	A	-	A	A	-	A	C	A	-	C	A			
Copper Sulfate	B	B	-	-	-	A	A	C	D	-	-	A	-	A	A	-	C	-	-	A	-	-	A	-	A	-	B	B	-	A	-	A			
Cream	-	A	A	-	A	-	-	C	-	D	-	-	-	-	A	A	A	-	-	A	-	A	A	-	A	A	-	C	-	-	A				
Cresole ²	-	A	A	-	B	-	-	D	C	-	-	D	D	-	D	-	D	D	C	A	A	A	-	A	D	D	D	D	D	D	A				
Cresylic Acid	B	A	A	-	C	A	B	C	-	-	-	B	D	A	-	D	D	-	C	-	-	A	A	-	A	D	-	D	D	D	A				
Cyclohexane	-	A	-	-	A	A	-	A	-	-	-	A	-	D	-	D	A	-	-	D	A	A	-	A	A	D	D	D	D	D	A				
Cyanic Acid	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	D	-	-	-	-	-	-	-	-	-	C	-	D	-	-	A				
Detergents	-	A	A	-	A	-	-	A	-	-	-	A	A	-	-	A	B	A	B	B	A	A	A	-	A	A	-	B	A	C	A				
Dichlorethane	-	A	A	-	-	-	A	-	-	-	-	D	D	A	-	-	A	-	D	-	-	-	-	-	C	-	-	D	-	D	A				
Diesel Fuel	A	A	A	-	A	-	-	A	-	-	-	-	-	-	D	A	-	-	-	D	A	A	-	A	A	-	D	D	D	D	A				
Diethylamine	A	A	-	-	A	-	-	A	-	-	-	-	-	A	B	D	-	-	-	C	-	A	A	-	D	B	-	B	B	C	A				
Diethylamine Glycol	-	A	-	-	-	-	-	A	-	-	-	-	-	-	A	A	A	B	B	-	-	A	A	-	A	A	C	A	A	A	A				
Diphenyl Oxide	-	A	-	-	-	-	-	A	-	-	-	-	-	-	-	A	-	-	-	-	-	-	-	-	A	D	-	D	D	D	A				
Dyes	-	A	A	-	B	-	-	C	-	-	-	-	-	-	A	A	-	-	-	-	-	-	-	-	A	-	C	-	-	-	A				
Epsom Salts (Magnesium Sulfate)	B	A	A	A	A	B	B	-	-	-	-	A	-	-	A	A	-	-	-	A	-	-	A	A	-	A	-	A	-	C	A				
Ethane	A	A	-	-	A	-	-	A	-	-	-	-	-	-	D	A	-	-	-	-	-	-	-	-	A	A	-	B	D	D	A				
Ethanolamine	-	A	A	-	-	-	-	-	-	-	C	-	-	-	-	D	-	-	-	-	-	-	-	-	A	A	-	D	B	C	B	-	C	A	
Ether ³	A	A	A	A	A	-	B	B	A	-	B	D	C	-	D	A	C	-	-	-	-	-	-	-	A	A	A	C	D	-	D	C	D	A	
Ethyl Acetate ²	-	A	A	-	B	-	B	B	-	-	C	D	D	A	D	A	A	D	C	C	A	A	-	D	D	C	D	B	D	A	A				
Ethyl Chloride	-	A	A	A	B	A	B	B	-	C	D	D	A	D	A	A	A	-	D	D	A	A	-	A	A	-	D	D	C	A	A	A			
Ethyl Sulfate	-	D	-	-	-	-	-	-	-	-	-	-	-	-	-	B	-	-	-	-	-	-	-	-	A	A	-	-	-	-	-	A			
Ethylene Chloride ²	-	A	A	-	C	B	B	A	-	C	C	D	-	A	D	A	-	D	-	D	A	A	-	A	D	D	D	C	D	D	A				
Ethylene Dichloride	-	A	A	-	D	A	B	C	-	-	C	D	D	A	D	A	A	-	D	A	A	C	A	-	A	D	D	D	C	D	D	A			
Ethylene Glycol ⁴	-	A	A	-	A	-	A	B	B	B	C	A	B	A	A	A	A	B	B	A	A	A	-	A	A	-	A	C	A	A	A	A			
Ethylene Oxide	-	-	A	-	A	-	-	A	-	-	-	D	-	A	A	A	A	-	-	-	-	-	-	-	A	A	-	D	D	D	D	C	D	A	
Fatty Acids	-	A	A	-	B	A	A	C	-	D	-	A	B	A	B	A	A	-	B	A	-	-	-	-	A	C	C	B	C	C	A				
Ferric Chloride	-	D	D	D	D	A	B	D	D	D	-	A	B	A	A	B	D	-	B	A	A	A	-	A	D	C	B	A	A	A	A				
Ferric Nitrate	-	A	A	A	D	A	A	D	-	-	-	A	-	A	A	B	D	-	B	A	A	A	-	A	A	-	A	D	A	A	A	A			
Ferric Sulfate	-	A	C	A	D	A	A	D	D	D	-	A	B	A	A	B	A	C	-	A	A	C	A	-	A	B	C	A	-	A	A				
Ferrous Chloride	-	D	D	-	D	A	B	C	-	D	-	A	B	A	A	B	D	-	B	A	A	A	-	A	B	C	A	-	A	A					
Ferrous Sulfate	B	A	C	-	D	A	B	C	-	D	D	A	B	A	A	B	D	-	B	A	A	A	-	A	B	-	A	-	A	A					
Fluboric Acid	-	D	B	-	-	D	A	-	-	D	-	A	B	A	B	C	-	B	A	-	A	D	-	A	B	-	A	-	-	-	-	A			
Fluorine	D	D	D	-	D	D	A	D	-	D	D	C	-	C	-	-	D	-	C	-	-	-	-	-	-	-	-	-	-	-	-	D			
Fluosilicic Acid	-	-	B	-	D	D	B	-	-	D	-	A	B	A	A	B	D	-	B	A	-	-	-	-	A	D	-	B	A	-	-	-	C		
Formaldehyde 40%	-	-	A	-	-	A	A	-	-	-	-	B	-	A	A	-	D	-	-	-	-	-	-	-	D	B	B	A	-	-	-	A			
Formaldehyde	A	A	A	-	A	B	A	B	D	A	-	A	B	A	D	A	A	-	B	A	A	A	-	A	C	B	D	B	C	A	A				
Formic Acid ⁴	C	A	B	B	D	C	A	C	C	D	D	D	B	A	A	D	D	-	B	A	A	A	-	B	B	D	C	D	A	C	B				
Freon 11 ¹	A	-	A	-	B	-	-	B	-	C	B	B	D	A	D	A	A	D	C	-	-	-	-	-	A	C	D	D	D	D	A				
Freon 12 (wet) ²	-	-	D	-	B	-	-	B	-	-	-	B	D	A	D	A	A	B	C	A	A	A	-	A	A	A	D	B	B	D	A				
Freon 22	-	-	A	-	B	-	-	B	-	-	-	D	D	-	B	A	A	-	-	-	-	-	-	-	A	A	A	A	A	A	A				
Freon 113	-	-	A	-	B	-	-	B	-	-	-	C	D	-	-	A	A	-	-	-	-	-	-	-	A	A	A	D	A	-	D	A			
Freon T.F. ⁴	-	-	A	-	B	-	-	B	-	-	-	B	D	-	D	A	A	-	-	-	-	-	-	-	A	A	A	D	A	D	D	A			
Fruit Juice	A	A	A	A	B	-	-	B	-	D	D	A	-	D	A	B	A	-	B	A	-	-	-	-	A	A	A	-	A	-	-	-	A		
Fuel Oils	A	A	A	-	A	A	A	B	-	C	B	A	-	A	A	A	A	-	D	B	A	A	-	-	A	A	C	B	D	D	A				
Furan Resin	-	A	A	-	A	-	-	A	-	-	-	-	-	-	-	A	-	-	-	-	-	-	-	-	A	D	-	D	-	D	A				
Furtural ¹	A	A	A	-	A	-	B	A	-	-	A	D	-	A	D	B	A	D	D	D	A	A	-	-	D	D	D	D	B	D	A				
Gallic Acid	B	A	A	-	A	-	A	A	-	D	D	A	A	A	-	-	-	-	-	-	-	-	-	-	B	A	-	-	-	-	-	-			
Gasoline ^{1 4}	A	A	A	A	A	D	A	A	-	A	A	C	-	A	D	A	A	D	D	C	A	A	A	-	A	A	D	D	C	D	A				
Gelatin	A	A	A	A	A	-	A	A	C	D	D	A	-	A	A	A	A	-	-	-	-	-	-	-	A	A	-	A	A	A	A				
Glucose	A	-	A	-	A	-	-	A	A	B	B	A	B	A	A	B	B	A	-	A	-	-	-	-	A	A	B	A	A	A	A				
Glue P.V.A. ¹	B	B	A	-	B	A	-	A	-	-	-	A	A	B	A	-	-	-	-	-	-	-	-	-	A	A	-	A	-	-	-	A			
Glycerine	A	A	A	A	A	A	A	A	B	B	B	A	B	A	A	A	A	C	-	A	-	-	-	-	A	A	B	A	A	A	A				
Cyclic Acid	-	-	-	-	-	-	A	-	-	-	-	-	A	-	A	C	-	-	B	A	A	-	-	-	A	A	-	A	-	-	-	A			
Gold Monocyanide	-	-	A	-	-	-	-	A	-	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A	A	-	A	-	-	-	-	A		
Grape Juice	-	A	A	-	B	-	-	B	-	D	-	A	-	-	A	B	-	B	B	-	-	-	-	-	A	A	-	A	-	-	-	-	-	A	
Grease ⁴	A	A	A	-	A	-	-	B	-	A	A	-	-	-	-	A	A	-	-	-	-	-	-	-	A	A	-	D	-	-	-	-	A		
Heptane ¹	A	-	A	-	A	-	-	A	-	-	B	A	-	A	D	A	A	C	D	D	A	A	-	-	A	A	-	B	D	-	-	-	A		
Hexane ¹	A	A	A	-	A	B	-	-	B	C	-	A	D	A	A	D	-	C	A	A	-	-	-	-	A	B	B	D	D	A	A				
Honey	-	A	A	-	A	-	-	A	-	-	-	-	-	-	A	A	A	B	-	A	-	-	-	-	A	A	-	A	-	-	-	-	-	A	
Hydraulic Oils (Petroleum) ¹	A	A	A	-	A	-	-	B	-	A	A	-	-	-	-	A	A	-	-	D	-	-	-	-	A	A	-	B	D	D	A				
Hydraulic Oils (Synthetic) ¹	-	A	A	-	A	-	-	A	-	-	-	-	-	-	-	A	A	-	-	D	-	-	-	-	A	C	D	-	-	-	-	-	-	A	
Hydrazine	-	A	A	-	-	-	-	-	-	C	-	-	-	-	-	D	-	-	-	-	-	-	-	-	-	A	B	D	B	A	C	A			
Hydrobromic Acid 20%	-	-	D	-	-	A	A	-	-	-	-	-	-	-	A	A	-	D	-	-	-	-	-	-	B	-	A	D	-	-	-	-	-	B	
Hydrobromic Acid ⁴	D	D	D	D	D	A	A	D	-	D	D	A	B	A	C	D	D	-	B	B	-	-	-	-	A	A	-	A	D	D	D	A	A	A	
Hydrochloric Acid (Dry Gas)	D	C	A	-	D	-	-	-	-	D	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Hydrochloric Acid (20%) ⁴	-	D	D	D	D	C	B	D	-	D	-	A	B	A	A	D	D	B	A	A	D	A	A	-	A	C	-	C	A	C	A	A			
Hydrochloric Acid (37%) ⁴	-	D	D	D	D	C	B	D	-	D	-	A	B	A	A	D	D	C	A	A	D	A	C	-	A	C	C	C	C	D	A	A			
Hydrochloric Acid 100%	-	D	D	-	D	D	C	D	-	D	-	A</																							

GENERAL INFORMATION & DATA

	302 Stainless Steel	304 Stainless Steel	316 Stainless Steel	440 Stainless Steel	Aluminum	TITANIUM	HASTELLOY C	Cast Bronze	Brass	Cast Iron	Carbon Steel	PVC (Type 1)	Tygon (E-3606)	Teflon	Noryl	Polyacetal	Nylon	Cyclac (ABS)	Polyethylene	POLYPROPYLENE	RYTON	CARBON	CERAMIC	CERAMAGNET "A"	VITON	BUNAN (NITRILE)	Silicon	Neoprene	Ethylene Propylene	Rubber (Natural)	Epoxy						
Hydrofluosilicic Acid	-	D	D	-	C	-	C	D	-	-	-	-	C	A	-	-	-	-	-	-	-	A	-	-	-	-	D	A	-	-	-						
Hydrogen Gas	A	A	A	-	A	-	A	-	B	B	A	-	A	-	-	-	-	-	-	-	-	-	-	-	-	A	-	-	-	-	-	-					
Hydrogen Peroxide 10%	-	C	C	-	A	C	A	D	D	D	-	A	A	-	-	D	-	A	-	B	A	A	-	-	-	A	-	-	D	-	-	-					
Hydrogen Peroxide 30%	-	-	B	-	-	B	A	-	D	-	-	A	-	A	-	D	-	-	A	C	-	-	-	-	A	D	-	C	-	-	-	B					
Hydrogen Peroxide	-	A	B	A	A	B	A	D	D	D	D	A	C	A	B	D	D	-	B	A	C	-	A	A	A	D	C	D	C	C	A						
Hydrogen Sulfide, Aqueous Solution	-	A	A	C	C	A	A	D	C	D	-	A	B	A	A	D	D	-	B	A	A	A	A	A	B	C	-	B	A	D	A						
Hydrogen Sulfide (Dry)	A	C	A	-	D	-	A	D	C	B	B	A	-	A	-	-	D	-	-	-	-	A	-	A	-	-	-	-	-	-	-	A					
Hydroxyacetic acid (70%)	-	-	-	-	D	B	-	-	-	-	-	-	A	-	-	-	-	-	D	-	-	-	-	A	A	-	A	A	-	-	-	-	A				
Ink	A	A	A	-	C	-	-	C	-	D	D	-	-	-	B	A	A	-	B	-	-	-	A	A	A	A	A	-	A	-	-	-	-	A			
Iodine	-	D	D	D	D	A	B	D	-	D	-	D	B	A	A	C	D	D	D	D	-	D	A	-	A	B	-	D	B	D	A						
Iodine (In Alcohol)	-	-	B	-	-	D	A	-	-	-	-	D	-	A	C	-	D	-	B	-	-	-	A	-	A	D	-	D	-	-	-	-	-				
Iodoform	B	D	A	-	A	-	-	C	-	C	B	-	-	A	-	-	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-	-				
Isotane ²	-	-	-	-	A	-	-	-	-	-	-	-	-	-	D	A	-	-	-	D	-	-	A	-	A	A	-	-	-	-	-	-	-	D	A		
Isopropyl Acetate	-	-	B	-	C	-	-	-	-	-	-	-	-	-	-	A	-	-	-	-	-	-	A	A	-	D	D	-	D	B	D	A					
Isopropyl Ether ²	A	-	A	-	A	-	-	A	-	-	A	-	-	A	D	A	-	-	-	D	-	A	A	-	D	B	-	D	D	D	-	-	-	-			
Jet Fuel (JP3, JP4, JP5)	A	A	A	-	A	-	-	A	-	-	A	A	-	A	D	A	A	-	-	D	A	A	-	A	A	D	D	D	D	A	D	A					
Kerosene ²	A	A	A	A	A	A	A	A	A	A	B	A	D	A	D	A	A	B	D	D	A	A	A	A	A	D	D	D	D	A	D	A					
Ketones	A	A	A	-	B	A	A	A	-	A	A	D	D	A	D	B	A	-	D	D	A	C	A	-	D	D	-	D	D	C	C	-	-	-			
Lacquers	A	A	A	-	A	-	-	A	C	C	C	-	D	-	C	A	A	-	-	A	-	A	A	-	D	D	-	D	-	D	A	-	-	-			
Lacquer Thinners	-	-	-	-	A	A	-	C	-	-	C	-	A	D	-	A	-	-	B	-	-	-	A	-	-	D	-	D	A	-	-	-	-	-			
Lactic Acid	A	A	B	C	C	A	A	D	-	D	A	B	A	A	B	C	-	B	A	A	A	A	-	B	B	-	A	B	A	A	A	A	-	-	-		
Lard	B	A	A	A	A	-	-	A	-	A	C	A	-	-	A	A	C	-	A	-	A	A	-	A	A	-	A	C	B	-	D	A	-	-	-		
Latex	-	A	A	-	A	-	-	A	-	-	-	-	-	-	A	A	A	-	B	-	-	-	A	-	A	A	-	C	A	-	-	-	-	-	-		
Lead Acetate	B	A	A	-	D	A	A	C	-	-	D	A	B	A	A	A	A	-	B	A	-	A	A	-	D	B	-	D	A	A	A	A	-	-	-		
Lead Sulfamate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A	-	-	-	-	-	-	-	-	A	B	C	A	D	C	A	-	-	-			
Ligroin ³	-	-	A	-	-	-	-	A	-	-	-	-	-	-	D	A	-	-	-	D	-	-	A	-	A	A	-	B	A	D	A	-	-	-	-		
Lime	-	A	A	-	C	A	-	A	-	A	-	A	-	-	A	D	-	C	-	-	-	-	A	A	-	A	A	C	B	D	-	-	-	-	-		
Lubricants	-	A	A	-	A	A	A	B	-	-	-	A	-	A	-	A	A	B	-	A	A	A	-	A	A	-	A	C	D	-	D	A	-	-	-		
Magnesium Carbonate	-	A	A	A	-	B	-	-	-	-	-	A	-	-	A	-	-	-	B	A	-	-	-	-	-	-	-	A	A	-	-	-	-	-	-		
Magnesium Chloride	B	B	B	A	D	A	A	B	C	D	C	A	B	A	A	A	A	-	B	A	A	-	A	-	A	A	-	A	A	A	A	-	-	-	-		
Magnesium Hydroxide	A	A	A	-	D	A	A	C	B	B	B	A	-	A	A	A	A	-	B	A	A	A	-	A	B	-	B	-	B	-	-	-	-	-	-		
Magnesium Nitrate	-	A	A	A	-	A	A	-	-	-	-	A	-	A	A	A	A	-	B	A	-	-	-	-	A	A	-	A	-	-	-	-	-	-	-		
Magnesium Oxide	-	A	A	-	-	-	-	-	-	-	-	-	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Magnesium Sulfate	B	B	A	-	B	A	B	B	C	B	A	B	A	A	A	A	-	B	A	A	-	A	A	-	A	A	-	A	D	C	A	-	-	-	-		
Maleic Acid	C	A	A	A	B	A	A	C	-	-	B	A	B	A	A	C	A	-	-	C	-	-	A	A	-	A	D	-	D	-	-	-	-	-	-		
Maleic Anhydride	-	-	-	-	-	-	A	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	A	A	-	A	D	-	D	-	-	-	-	-	-		
Malic Acid	B	A	A	-	C	-	A	D	-	-	D	A	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Mash	-	A	A	-	-	-	-	A	-	-	-	-	-	-	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Mayonnaise	A	A	A	-	D	-	-	D	D	-	-	-	-	-	A	A	A	B	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Melamine	-	D	D	-	-	-	-	D	-	-	-	-	-	-	-	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Mercuric Chloride (Dilute Solution)	D	D	D	D	D	A	B	D	D	D	D	A	A	A	A	A	A	-	B	A	-	A	A	-	A	A	-	A	A	A	A	-	-	-	-	-	
Mercuric Cyanide	A	A	A	-	D	A	-	D	-	-	D	A	-	A	A	A	-	-	B	A	-	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mercury	A	A	A	A	C	C	A	D	D	A	A	A	-	A	A	A	-	-	B	A	-	A	A	-	A	A	-	A	A	A	-	-	-	-	-	-	
Methanol (See Alcohol Methyl)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl Acetate	A	-	A	-	A	-	A	A	-	-	B	-	-	A	-	A	-	D	-	-	-	-	A	A	-	D	D	D	B	B	D	-	-	-	-	-	
Methyl Acrylate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl Acetone	A	-	A	-	A	-	-	A	-	-	A	A	-	-	A	D	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl Alcohol 10%	A	-	A	-	C	-	A	C	-	-	B	A	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl Bromide	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A	-	-	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl Butyl Ketone	-	-	A	-	A	-	-	-	-	-	-	-	-	-	D	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl Cellosolve	-	-	-	-	A	-	-	A	-	-	-	-	-	-	C	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl Chloride	-	C	A	-	D	A	A	A	-	-	-	D	-	A	D	A	A	-	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl Dichloride	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl Ethyl Ketone	-	A	A	-	A	A	A	A	-	-	-	D	-	A	D	B	A	D	D	A	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl Isobutyl Ketone ²	-	-	A	-	-	A	A	-	-	-	-	D	-	A	D	B	A	D	-	C	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl Isopropyl Ketone	-	-	A	-	-	-	-	-	-	-	-	-	-	-	D	B	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl Methacrylate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methylamine	A	-	A	-	A	-	-	D	-	B	B	-	-	-	B	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene Chloride	A	A	A	-	A	A	A	C	-	B	D	-	-	A	D	A	D	-	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milk	A	A	A	A	A	-	-	C	C	D	D	A	-	-	A	A	A	B	B	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Molasses	A	A	A	A	A	-	-	A	B	A	A	A	-	-	B	A	A	-	-	B	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mustard	A	A	A	A	B	-	-	B	-	C	B	A	-	-	B	B	A	B	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphtha	A	A	A	A	A	A	A	B	-	B	B	A	C	A	D	A	A	C	D	A	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	B	A	B	-	B	A	A	C	-	B	A	D	-	-	A	D	A	-	-	D	B	A	A	-													



	302 Stainless Steel	304 Stainless Steel	316 Stainless Steel	440 Stainless Steel	Aluminum	TITANIUM	HASTELLOY C	Cast Bronze	Brass	Cast Iron	Carbon Steel	PVC (Type 1)	Tygon (E-3606)	Teflon	Noryl	Polyacetal	Nylon	Cyclac (ABS)	Polyethylene	POLYPROPYLENE	RYTON	CARBON	CERAMIC	CERAMAGNET "A"	VITON	BUNAN (NITRILE)	Silicon	Neoprene	Ethylene Propylene	Rubber (Natural)	Epoxy						
Bone	-	A	A	-	-	-	-	A	-	-	-	-	-	-	-	A	-	-	-	-	-	A	A	-	A	A	-	D	-	-	A						
Castor	-	A	A	-	A	-	-	A	-	A	-	A	-	-	-	A	-	-	-	-	-	-	A	A	A	A	A	-	D	-	-	A					
Cinnamon	-	A	A	-	-	-	-	-	-	-	-	-	-	A	-	A	-	-	-	A	-	-	A	A	-	D	-	-	-	-	A						
Citric	-	A	A	-	-	-	-	D	-	D	-	-	-	-	-	A	A	-	-	A	-	-	A	A	-	A	-	D	-	-	A						
Clove	-	A	A	-	-	-	-	-	-	-	-	-	-	-	-	A	A	-	-	B	-	-	A	A	-	A	-	-	-	-	A						
Coconut	-	A	A	-	B	-	-	A	-	A	-	-	-	-	-	A	A	-	-	A	-	-	A	A	-	A	-	A	A	D	A						
Cod Liver	-	A	A	-	B	-	-	-	-	-	-	-	-	-	-	A	A	C	-	A	-	-	A	A	-	A	-	B	A	D	A						
Corn	-	A	A	A	B	-	-	B	-	A	-	-	-	-	-	A	A	C	-	A	-	-	A	A	-	A	-	D	C	D	A						
Cotton Seed	B	A	A	A	B	-	-	B	-	A	C	A	-	A	-	A	A	C	-	A	-	-	A	A	-	A	-	D	C	D	A						
Cresote2	-	A	A	-	A	-	-	-	-	-	-	-	-	-	-	D	-	-	-	D	-	-	A	A	-	A	-	B	D	D	A						
Diesel Fuel (2d, 3D, 4D, 5D)	-	A	A	-	A	-	-	A	-	-	-	-	-	-	D	A	A	-	-	A	-	-	A	A	-	A	-	D	D	D	A						
Fuel (1, 2, 3, 5A, 5B, 6)	-	A	A	-	A	A	A	-	-	-	-	A	-	A	D	A	-	-	-	B	-	-	A	A	-	A	B	-	D	D	A						
Ginger	-	A	A	-	-	-	-	-	-	-	-	-	-	-	-	A	-	-	-	-	-	-	A	A	-	A	-	A	-	-	A						
Hydraulic (See Hydraulic)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Lemon	-	A	A	-	-	-	-	-	-	-	-	-	-	-	-	A	-	-	-	D	-	-	A	A	-	A	-	D	-	-	A						
Linseed	-	A	A	A	A	-	-	A	-	A	-	A	B	-	-	A	A	C	-	A	-	-	A	A	A	A	-	D	D	D	A						
Mineral	A	A	A	A	A	-	-	A	-	A	B	A	-	-	B	A	A	-	-	B	-	-	A	A	A	A	-	B	D	D	A						
Olive	A	A	A	-	A	-	-	B	-	A	B	A	-	-	A	A	A	-	-	A	-	-	A	A	-	A	C	B	-	D	A						
Orange	-	A	A	-	-	-	-	-	-	-	-	-	-	-	-	A	A	-	-	A	-	-	A	A	-	A	-	D	-	-	-	A					
Palm	-	A	A	-	A	-	-	B	-	-	-	A	-	-	-	A	A	-	-	-	-	-	A	A	-	A	-	D	-	-	-	A					
Peanut ³	-	A	A	-	A	-	-	A	-	A	-	A	-	-	-	A	-	-	-	D	-	-	A	A	-	A	-	D	-	D	A						
Peppermint ²	-	A	A	-	-	-	-	A	-	-	-	-	-	-	-	A	-	-	-	D	-	-	A	A	-	A	-	D	-	-	-	A					
Pine	A	A	A	-	A	-	-	D	-	C	B	A	-	-	-	A	-	-	-	-	-	-	A	A	-	A	-	D	-	D	A						
Rape Seed	-	A	A	-	-	-	-	A	-	-	-	A	-	-	-	A	-	-	-	-	-	-	A	A	-	A	B	-	D	-	D	A					
Rosin	-	A	A	-	A	-	-	-	-	-	-	-	-	-	-	A	A	-	-	A	-	-	A	A	-	A	-	-	-	-	-	-	A				
Sesame Seed	-	A	A	-	A	-	-	A	-	A	-	A	-	-	-	A	-	-	-	-	-	-	A	A	-	A	-	D	-	-	-	-	A				
Silicone	-	A	A	-	-	-	-	A	-	A	-	-	-	-	-	A	A	A	-	-	A	-	-	A	A	A	A	-	A	-	-	-	-	A			
Soybean	-	A	A	-	A	-	-	B	-	A	-	A	-	-	-	A	A	-	-	A	-	-	A	A	-	A	-	D	-	D	A						
Sperm	-	A	A	-	-	-	-	A	-	-	-	A	-	-	-	A	-	-	-	-	-	-	A	A	-	A	-	D	-	-	-	-	A				
Tanning	-	A	A	-	-	-	-	-	-	-	-	-	-	-	-	A	-	-	-	-	-	-	A	A	-	A	-	D	-	-	-	-	-	A			
Turbine	-	A	A	-	A	-	-	A	-	A	-	A	-	-	-	A	-	C	-	-	-	-	A	A	-	A	-	D	-	D	A						
Oleic Acid	B	A	A	B	B	-	B	B	C	C	C	A	C	A	C	B	A	B	D	C	-	-	A	A	-	B	B	D	D	D	D	A					
Oleum 25%	-	-	-	-	-	-	A	-	-	-	-	D	-	-	A	D	-	-	-	-	-	-	-	A	-	A	D	D	D	D	-	-	D				
Oleum	B	-	A	-	B	-	-	C	C	-	B	D	-	-	A	-	D	-	-	D	-	-	-	A	-	A	C	D	D	D	D	A					
Oxalic Acid (cold)	C	A	B	A	C	C	B	B	C	D	D	A	B	A	C	C	D	-	-	A	-	-	A	A	-	A	-	B	C	B	A	C	A				
Paraffin	A	A	A	A	A	-	-	A	-	B	B	A	-	-	A	B	A	A	B	-	-	-	A	A	-	A	-	-	-	-	-	-	-	-	A		
Pentane	A	C	C	-	A	-	B	A	-	B	B	-	-	-	A	D	A	A	D	-	-	-	-	A	A	-	A	-	B	D	D	A					
Perchloroethylene ²	B	A	A	-	A	-	-	C	-	B	B	-	-	-	A	D	A	-	D	-	-	D	A	A	-	A	C	D	D	D	D	A					
Petrolatum	A	-	A	-	B	-	-	B	-	C	C	-	-	-	A	D	A	A	B	-	-	-	-	A	A	-	A	-	B	A	D	A					
Phenol 10%	B	A	A	-	A	-	B	C	-	B	D	A	C	A	-	-	D	-	-	-	-	-	A	-	-	B	D	-	C	D	C	C					
Phenol (Carbolic Acid)	B	A	A	A	B	C	A	B	D	D	D	A	C	A	C	D	D	-	-	D	B	A	A	D	A	A	D	-	D	D	D	B					
Phosphoric Acid (to 40% Solution)	-	B	A	A	D	A	D	D	D	-	A	B	A	A	D	D	C	B	A	A	B	C	D	A	D	-	D	B	C	A							
Phosphoric Acid (40% - 100% Solution)	-	C	B	B	D	B	A	D	D	D	-	A	B	A	A	D	D	D	C	A	A	B	C	D	A	D	-	D	B	C	C						
Phosphoric Acid (Crude)	-	D	C	C	D	C	A	D	D	D	D	-	-	-	A	-	D	D	D	C	-	-	A	C	D	-	A	D	-	D	B	-	A				
Phosphoric Anhydride (Dry or Moist)	-	A	A	-	-	-	-	D	-	-	-	D	D	A	-	-	-	-	-	-	-	-	-	A	-	-	D	D	-	D	-	-	-	A			
Phosphoric Anhydride (Molten)	-	A	A	-	D	-	-	D	D	-	-	D	-	-	-	A	-	-	-	D	-	-	-	-	-	-	D	C	-	D	-	-	-	A			
Photographic (Developer)	-	C	A	C	C	A	A	-	-	D	-	A	-	-	-	A	C	-	-	B	A	-	-	A	A	-	A	-	A	-	-	-	-	-	A		
Phthalic Anhydride	B	A	B	-	B	-	A	B	-	C	C	-	-	-	-	A	-	-	-	-	-	-	-	-	-	-	A	C	-	-	-	-	-	-	A		
Picric Acid	B	A	A	-	C	-	A	D	D	D	D	A	A	A	-	-	A	-	-	-	-	-	-	-	-	-	A	A	D	A	-	-	-	-	A		
Plating Solutions																																					
Antimony Plating 130° F	-	-	A	-	-	A	A	-	-	-	-	A	-	-	A	A	-	D	-	-	-	-	A	-	A	A	D	A	-	-	-	-	-	-	B		
Arsenic Plating 110° F	-	-	A	-	-	A	A	-	-	-	-	A	-	-	-	A	A	-	-	-	-	-	-	C	-	A	A	D	A	-	-	-	-	-	B		
Brass Plating																																					
Regular Brass Bath 100° F	-	-	A	-	-	A	A	-	-	-	-	A	-	-	A	A	-	-	-	-	-	-	-	-	C	-	A	A	D	A	-	-	-	-	B		
High Speed Brass Bath 110° F	-	-	A	-	-	A	A	-	-	-	-	A	-	-	-	A	A	-	-	-	-	-	-	-	D	-	A	A	D	A	-	-	-	-	-	B	
Bronze Plating																																					
Copper-Cadmium Bronze Bath	-	-	A	-	-	A	A	-	-	-	-	A	-	-	A	A	-	-	-	-	-	-	-	-	C	-	A	A	D	A	-	-	-	-	-	B	
Copper-Tin Bronze Bath 160° F	-	-	A	-	-	A	A	-	-	-	-	D	-	-	-	A	A	-	-	-	-	-	-	-	D	-	A	A	D	B	-	-	-	-	-	C	
Copper-Zinc Bronze Bath 100° F	-	-	A	-	-	A	A	-	-	-	-	-	-	-	-	A	A	-	-	-	-	-	-	-	C	-	A	A	-	-	-	-	-	-	-	-	B
Cadmium Plating																																					
Cyanide Bath 90° F	-	-	A	-	-	A	A	-	-	-	-	A	-	-	-	A	A	-	-	-	-	-	-	-	C	-	A	A	-	A	-	-	-	-	-	-	B
Fluoborate Bath 100° F	-	-	A	-	-	D	A	-	-	-	-	A	-	-	-	-	A	A	-	-	-	-	-	-	D	-	A	B	-	C	-	-	-	-	-	-	B
Chromium Plating																																					
Chromic-Sulfuric Bath 130° F	-	-	C	-	-	A	A	-	-	-	-	-	-	-	-	A	D	-	D	-	-	-	-	-	-	A	-	C	D	-	D	-	-	-	-	D	
Fluosilicate Bath 95° F	-	-	C	-	-	C	A	-	-	-	-	-	-	-	-	A	D	-	D	-	-	-	-	-	-	B	-	C	D	-	D	-	-	-	-	D	
Fluoride Bath 130° F	-	-	D	-	-	C	A	-	-	-	-	-	-	-	-	A	D	-	D	-	-	-	-	-	-	-	B	-	C	D	-	D	-	-	-	-	D
Black Chrome Bath 115° F	-	-	C	-	-	A	A	-	-	-	-	-	-	-	-	A	D	-	D	-	-	-	-	-	-	-	A	-	C	D	-	D	-	-	-	-	D



	302 Stainless Steel	304 Stainless Steel	316 Stainless Steel	440 Stainless Steel	Aluminum	TITANIUM	HASTELLOY C	Cast Bronze	Brass	Cast Iron	Carbon Steel	PVC (Type 1)	Tygon (E-3606)	Teflon	Noryl	Polyacetal	Nylon	Cyclac (ABS)	Polyethylene	POLYPROPYLENE	RYTON	CARBON	CERAMIC	CERAMAGNET "A"	VTON	BUNAN (NITRILE)	Silicon	Neoprene	Ethylene Propylter	Rubber (Natural)	Epoxy	
Sodium Hypochlorite ³ (to 20%)	-	C	C	C	C	A	A	D	D	D	-	A	B	A	A	D	A	-	B	D	C	D	A	B	A	C	D	D	B	C	B	
Sodium Hyposulfate	-	A	A	-	D	-	-	D	-	-	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	C	-	C	C	
Sodium Metaphosphate ²	A	-	A	-	A	-	-	C	C	B	B	-	-	A	-	B	A	-	-	D	-	A	A	-	A	A	-	B	A	A	A	
Sodium Metasilicate	A	-	A	-	B	-	-	B	-	C	C	-	-	A	-	D	-	-	-	-	-	A	-	-	A	A	D	A	-	-	A	
Sodium Nitrate	B	A	A	A	A	B	B	C	A	B	A	B	A	B	A	B	A	-	B	A	-	A	A	A	B	C	D	B	A	C	A	
Sodium Perborate	B	-	C	-	B	-	-	C	C	B	B	-	-	A	A	B	A	-	-	A	-	A	A	-	A	B	D	B	A	C	A	
Sodium Peroxide	B	A	A	-	C	-	B	C	C	D	C	A	-	A	-	D	D	-	-	-	-	A	A	-	A	C	D	B	A	C	A	
Sodium Polyphosphate (Mono, Di, Tribasic)	-	A	A	-	D	A	A	C	-	-	-	-	-	A	A	B	-	-	-	-	-	A	A	-	A	A	-	D	A	A	A	
Sodium Silicate	B	A	B	A	C	A	B	C	B	C	-	B	A	B	A	A	C	A	-	-	A	-	A	-	A	A	-	A	A	A	A	
Sodium Sulfate	B	A	A	C	B	A	B	B	B	A	B	A	-	A	A	C	B	A	-	B	A	A	A	-	A	A	-	A	A	A	A	
Sodium Sulfide	B	A	B	-	D	A	B	D	D	A	B	A	B	A	A	B	A	-	B	A	A	A	A	-	A	C	-	A	A	C	A	
Sodium Sulfite	-	C	C	-	C	A	A	C	-	A	-	A	A	A	-	-	D	-	A	-	-	A	A	-	A	A	-	A	-	-	A	
Sodium Tetraborate	-	-	A	-	-	-	-	-	-	-	-	-	-	A	B	-	-	-	-	-	-	-	A	-	A	A	-	-	-	-	A	
Sodium Thiosulphate ("Hypo")	A	A	A	-	B	A	-	D	D	C	B	A	-	A	A	C	A	-	-	A	A	A	-	A	B	-	A	A	C	A		
Sorghum	-	A	A	-	-	-	-	-	A	-	-	-	-	-	A	A	-	-	-	-	-	A	A	-	A	A	-	A	-	-	A	
Soy Sauce	-	A	A	-	A	-	-	A	-	D	-	-	-	-	A	A	A	-	-	-	-	-	A	A	-	A	A	-	A	-	D	A
Stannic Chloride	D	D	D	-	D	A	B	D	-	D	D	A	-	A	A	C	A	-	B	A	-	-	A	-	A	A	D	A	A	A	A	
Stannic Fluoborate	-	-	A	-	-	-	-	-	-	D	-	-	-	-	A	C	-	-	-	-	-	-	A	-	A	A	-	A	-	-	A	
Stannous Chloride	D	D	C	-	D	A	A	D	-	D	D	A	A	A	-	-	D	-	-	-	-	-	-	-	B	C	D	D	-	A	A	
Starch	B	A	A	-	A	-	-	B	-	C	C	A	-	A	A	A	A	-	B	-	-	-	A	A	-	A	A	-	A	-	-	A
Stearic Acid ²	B	A	A	A	B	A	A	C	C	C	C	A	B	A	A	A	A	-	B	D	-	A	A	A	A	B	D	B	B	C	A	
Stoddard Solvent	A	A	A	A	A	A	A	A	B	B	A	D	A	D	A	A	B	D	D	A	A	-	A	B	D	D	D	D	D	D	A	
Styrene	A	A	A	-	A	-	-	A	-	-	A	-	-	-	A	A	A	-	-	-	-	-	A	A	-	B	D	D	D	D	A	
Sugar (Liquids)	A	A	A	A	A	-	A	A	-	B	B	-	-	A	A	A	A	B	-	A	-	A	A	A	A	A	-	B	-	A	A	
Sulfate Liquors	-	C	C	-	B	-	A	C	-	-	-	-	-	-	D	-	-	-	-	-	-	A	-	A	A	-	-	-	C	-	A	
Sulfur Chloride	-	D	D	D	D	-	-	C	D	-	-	A	C	A	A	D	A	-	A	D	-	A	C	-	A	D	-	D	D	D	C	
Sulfur Dioxide ²	-	A	A	C	A	A	B	B	-	-	D	B	A	D	B	D	D	C	D	A	A	-	D	D	C	B	A	D	A	D	A	
Sulfur Dioxide (Dry)	A	A	A	-	A	-	A	A	C	A	B	D	-	A	-	-	A	-	D	-	-	-	A	A	-	A	-	-	D	-	D	D
Sulfur Trioxide (Dry)	A	A	C	-	A	-	-	B	-	B	B	A	B	A	D	D	D	-	-	-	-	B	A	-	A	D	-	D	B	C	A	
Sulfuric Acid (to 10%)	-	D	C	C	C	A	A	D	D	D	-	A	B	A	A	D	D	B	B	A	A	A	A	-	A	C	-	D	D	C	A	
Sulfuric Acid (10%-75%) ²	-	D	D	D	C	B	D	D	D	-	A	B	A	B	D	D	B	C	A	B	A	D	C	A	D	-	D	D	D	D	B	
Sulfuric Acid 75%-100%	-	-	D	-	-	D	B	-	D	-	-	B	-	A	A	-	D	-	-	B	C	-	A	-	A	D	-	D	-	-	D	
Sulfurous Acid	C	C	B	C	C	A	B	D	-	D	D	A	B	A	A	D	D	-	B	A	-	B	A	-	A	C	D	B	B	C	A	
Sulfuryl Chloride	-	-	-	-	-	-	-	-	-	-	-	A	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A	
Syrup	-	A	A	A	A	-	-	D	-	-	-	A	-	-	A	A	A	B	-	A	-	A	A	A	A	-	B	-	-	A	A	
Tallow	-	A	A	A	-	-	-	-	-	-	-	-	-	-	A	A	A	-	C	-	-	-	A	A	-	A	A	-	-	-	A	
Tannic Acid	B	A	A	A	C	A	B	B	-	C	C	A	B	A	A	B	D	-	B	A	-	A	A	A	A	D	C	A	A	A	A	
Tanning Liquors	-	A	A	-	C	A	A	A	-	-	-	A	B	A	-	B	-	-	-	-	-	A	-	A	A	-	A	C	-	-	-	A
Tartaric Acid	B	A	B	B	C	A	B	A	C	D	D	A	B	A	A	B	A	-	B	A	-	A	A	-	A	D	C	A	-	-	A	
Tetrachlorethane	-	-	A	-	-	A	A	-	-	-	-	D	-	A	D	A	A	-	-	-	-	A	-	A	-	A	D	-	-	D	D	A
Tetrahydrofuran	-	A	A	-	D	-	-	D	-	D	A	D	-	A	D	A	A	-	D	C	A	A	-	B	D	-	D	B	D	D	A	
Toluene, Toluol ³	A	A	A	-	A	A	A	A	A	A	A	D	D	A	D	A	A	D	D	D	A	A	A	A	C	D	D	D	D	D	A	
Tomato Juice	A	A	A	-	A	-	-	C	-	C	C	-	-	A	A	B	A	B	-	A	A	A	A	-	A	A	-	A	-	-	A	
Trichlorethane	-	C	A	-	C	A	A	C	-	C	-	-	-	A	D	A	-	-	-	-	-	-	A	-	A	D	D	D	D	D	A	
Trichlorethylene ²	B	A	A	-	B	A	A	B	A	C	B	D	-	A	D	A	C	D	D	D	C	A	A	C	A	D	D	D	D	D	A	
Trichloropropane	-	-	A	-	-	-	-	A	-	-	-	-	-	-	D	A	-	D	-	-	-	-	A	A	-	A	A	-	-	-	A	
Tricresylphosphate	-	-	A	-	-	B	A	A	-	-	-	D	-	A	A	C	-	-	-	-	-	-	A	A	-	B	D	-	D	A	-	A
Triethylamine	-	-	-	-	-	-	-	A	-	-	-	-	-	-	B	D	-	-	-	-	-	-	A	-	A	A	D	B	-	-	A	
Turpentine ³	B	A	A	-	C	-	A	B	C	B	B	A	B	A	D	A	A	-	D	B	A	A	-	A	A	-	A	D	-	D	D	A
Urine	-	A	A	-	B	-	-	C	-	B	-	A	-	-	A	A	A	-	B	A	-	A	A	-	A	A	-	D	A	-	-	A
Vegetable Juice	-	A	A	-	A	-	-	C	-	D	-	-	-	-	A	A	A	-	-	-	-	-	A	A	-	A	A	B	D	-	D	A
Vinegar	A	A	A	A	D	A	A	B	B	C	D	A	-	A	A	B	A	B	B	A	A	A	A	A	A	C	-	B	A	C	A	
Varnish (Use Viton for Aromatic)	A	A	A	A	-	-	-	A	B	-	C	-	-	A	D	A	A	-	-	A	-	-	A	A	A	B	C	D	-	-	A	
Water, Acid, Mine	-	A	A	-	C	-	-	C	D	C	-	A	B	-	A	D	A	B	-	A	B	A	A	-	A	A	-	B	-	-	A	
Water, Distilled, Lab Grade 7	-	A	A	-	B	-	-	A	-	D	-	A	B	A	A	A	A	A	-	A	A	A	A	A	A	-	B	A	A	A	A	
Water, Fresh	A	A	A	-	A	-	-	A	C	B	D	A	B	A	A	A	A	A	D	A	A	A	A	A	A	A	-	B	A	A	A	
Water, Salt	-	A	A	-	B	-	-	B	C	D	-	A	B	-	A	A	A	-	-	-	-	A	A	A	A	-	B	A	A	A	A	
Weed Killers	-	A	A	-	C	-	-	C	-	-	-	-	-	-	-	A	A	-	-	-	-	-	A	A	-	A	B	-	C	-	-	A
Whey	-	A	A	-	B	-	-	-	-	-	-	-	-	-	A	-	-	-	-	-	-	-	A	A	-	A	A	-	-	-	A	
Whiskey and Wines	A	A	A	A	D	-	-	B	B	D	D	A	-	A	A	A	A	-	B	A	-	A	A	-	A	A	B	A	A	A	A	
White Liquors (Pulp Mill)	-	A	A	-	-	-	-	A	D	-	C	-	-	A	A	D	A	-	-	-	-	A	-	A	A	-	A	-	-	-	A	
White Water (Paper Mill)	-	A	A	-	-	-	-	A	-	-	-	-	-	-	B	A	-	-	-	-	-	-	A	-	A	-	A	-	-	-	A	
Xylene ²	A	A	A	-	A	-	-	A	A	A	B	D	-	A	D	A	A	D	D	D	A	A	A	A	A	D	D	D	D	D	A	
Zinc Chloride	D	A	B	B	D	A	B	D	D	D	D	A	-	A	A	C	A	-	B	A	A	A	A	-	A	A	-	A	A	A	A	
Zinc Hydrosulphite	-	-	A	-	D	-	-	D	-	D	-	-	-	-	A	C	-	-	-	-	-	-	A	A	-	-	A	A	-	-	A	
Zinc Sulfate	B	A	A	A	D	A	B	B	C	C	D	C	B	A	A	C	A	-	B	A	A	A	A	-	A	A	-	A	A	C	A	

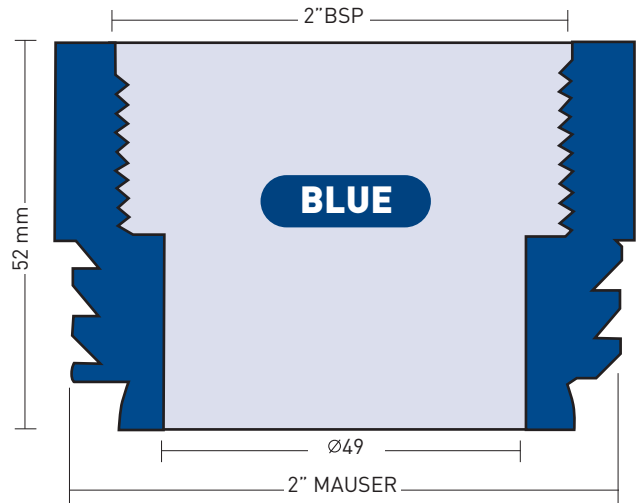
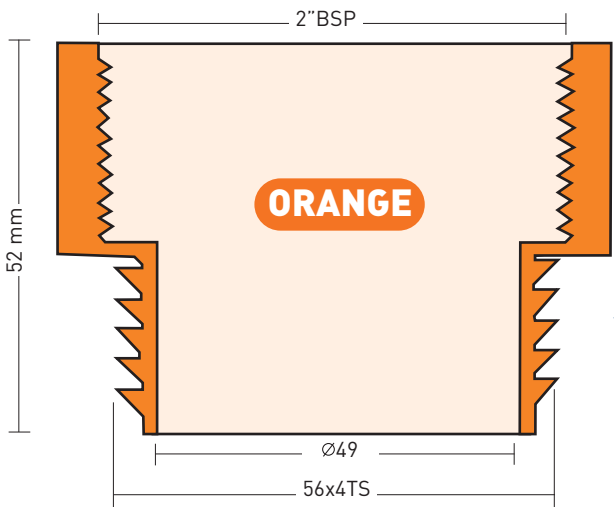
See page 46 for prices

Drawings to scale

BARREL ADAPTORS

The following range of threaded plastic adaptors can be used where drums, with threads other than the standard 2 inch b.s.p., need to be converted to a 2 inch b.s.p. thread to facilitate the use of standard barrel pumps and taps.

MODEL: ADM
THREADS: 70 x 6 Male to 2 inch BSP female
COLOUR: Blue
APPLICATION: Plastic drums with MAUSER buttress plugs, 70mm x 6
COMMON DRUM TYPES: Mauser, Rexam, Harcostar, Wiva, Gallay, Dynoplast, Roug, Ostensjo

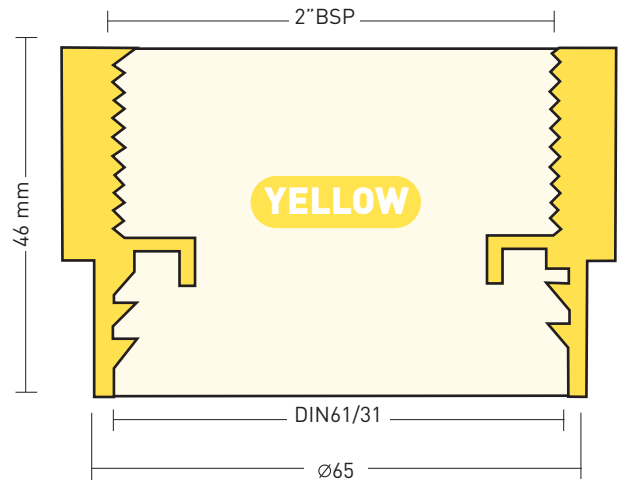
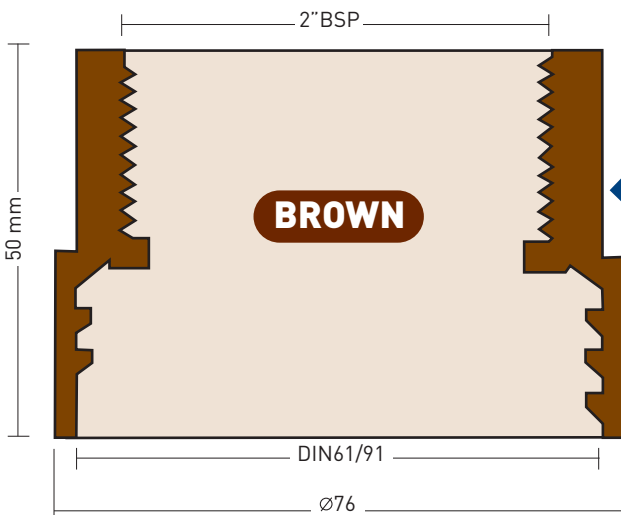


MODEL: ADTS
THREADS: 56 x 4 Male to 2 inch BSP female
COLOUR: Orange
APPLICATION: Plastic drums with TRISURE-EURO buttress plugs, 56mm x 4, most plastic drums 20, 25, 50 & 60 litre

COMMON DRUM TYPES: Van Leer, Economic Drums, Gem Plastics, Dynoplast, Rexam Harcostar, Roug, Hannells, Sotralentz, Schutz

MODEL: ADDIN61
THREADS: DIN 61 female to 2 inch BSP female
COLOUR: Yellow
APPLICATION: DIN 61 external screw necks on 'L' ring drums or IBC's, Plysu 20-25 litre drums with 59mm necks, Valerex 60mm necks, Dynoplast 25 litre drums with DIN 61 neck

COMMON DRUM TYPES: Van Leer (Valerex), Economic Drums, Gallay, Mauser, Schutz Drums & IBC's, Sotralentz IBC's, Van Leer Unicubes

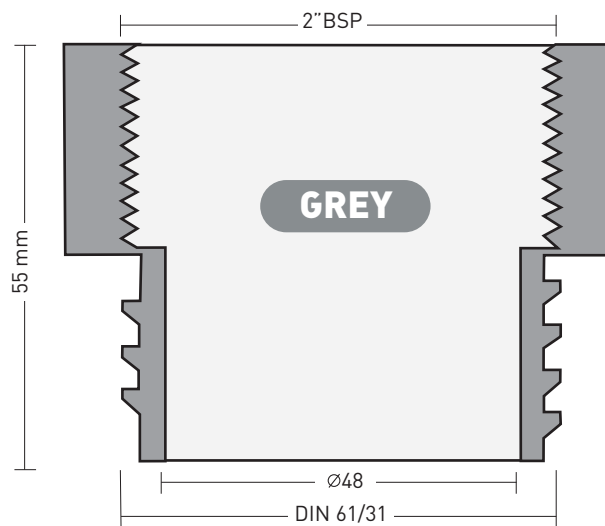
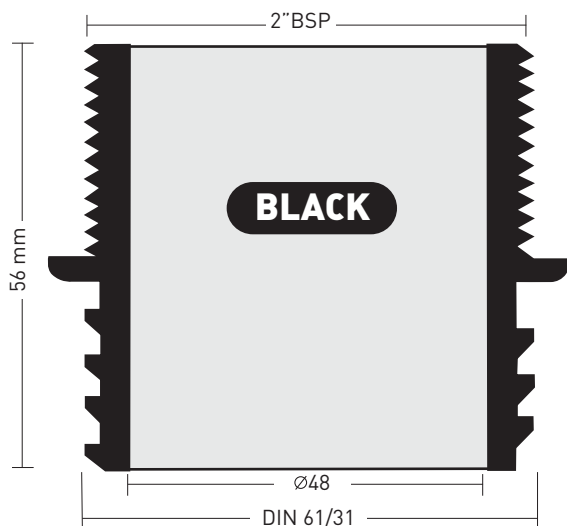


MODEL: ADDIN71
THREADS: 70 x 6 Male to 2 inch BSP female
 DIN 71 female to 2 inch BSP female

COLOUR: Brown
APPLICATION: 'L' ring drums from Germany with large aperture necks

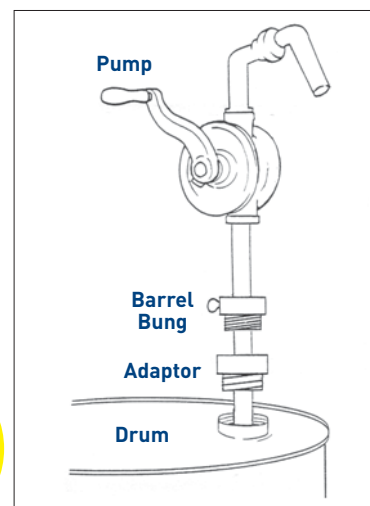
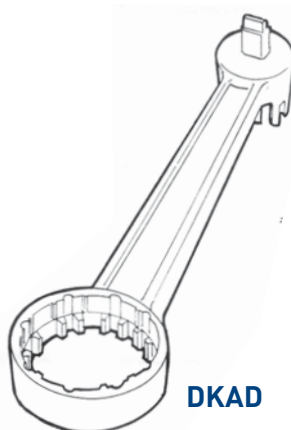
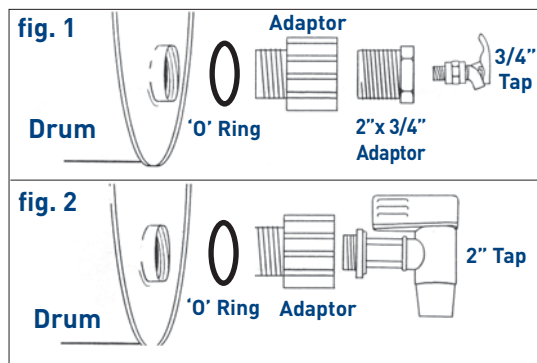
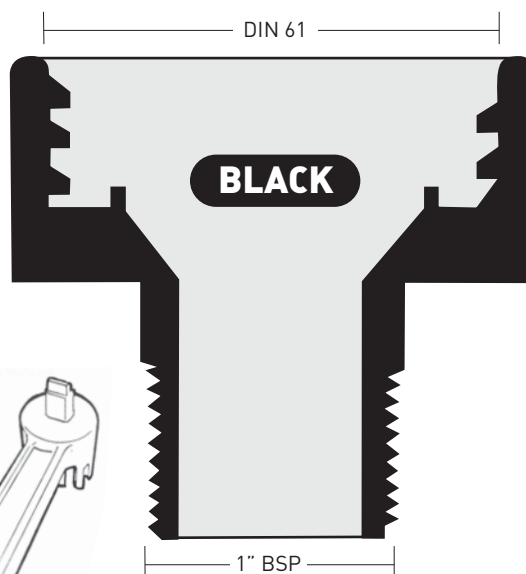
COMMON DRUM TYPES: Mauser and other German manufacturers

MODEL: ADUSIBC
THREADS: DIN 61 male to 2 inch BSP female
COLOUR: Grey
APPLICATION: American IBC's
COMMON DRUM TYPES: Hoover, Sonoco



MODEL: ADDIN2XM
THREADS: DIN 61 male to 2 inch BSP male
COLOUR: Black
APPLICATION: Some American IBC's
COMMON DRUM TYPES: Schutz and Finncont IBC's

MODEL: ADIBC
THREADS: DIN 61 female to 1 inch BSP male
COLOUR: Black
APPLICATION: IBC's
COMMON DRUM TYPES: Most IBC's



ADDITIONAL ITEMS

- 'O' ring for **ADM, ADTS, ADDIN61, ADDIN71** and **ADDIN2XM**.
 Required when drum is laid horizontally for use with a drum tap see fig. 1 & 2 - **Ref. ADOR**
- 2" bsp male x 3/4" bsp female adaptor for 3/4" drum taps - see fig.1 - **Ref. AD234** (malleable iron) or **Ref. AD234P** (plastic)
- Drum wrench for tightening and unscrewing adaptors. Also unscrews 3/4" and 2" drum closures. **Ref. DKAD**

See page 46 for prices

GENERAL INFORMATION & DATA

Pressure Conversion Chart – psi/bar/KPa

Use the table to convert pressure reading from either psi or Bar.

psi	Bar	KPa	Atm	Bar	psi	KPa	Atm
1	0.069	6.89	0.068	1	15	100	0.99
10	0.690	68.95	0.681	2	29	200	1.97
20	1.379	137.90	1.361	3	44	300	2.96
30	2.069	206.84	2.042	4	58	400	3.95
40	2.758	275.79	2.722	5	73	500	4.93
50	3.448	344.74	3.403	6	87	600	5.92
60	4.137	413.69	4.083	7	102	700	6.91
70	4.827	482.64	4.764	8	116	800	7.90
80	5.516	551.58	5.444	9	131	900	8.88
90	6.206	620.53	6.125	10	145	1000	9.87
100	6.895	689.48	6.805	15	218	1500	14.80
150	10.343	1034.22	10.208	20	290	2000	19.74
200	13.790	1378.96	13.610	25	363	2500	24.67
250	17.238	1723.70	17.013	30	435	3000	29.61
300	20.685	2068.44	20.415	35	508	3500	34.54
350	24.133	2413.18	23.818	40	580	4000	39.48
400	27.580	2757.92	27.220	45	653	4500	44.41
450	31.028	3102.66	30.623	50	725	5000	49.35
500	34.475	3447.40	34.025	100	1450	10000	98.69
550	37.923	3792.14	37.428	150	2175	15000	148.04
600	41.370	4136.88	40.830	200	2901	19999	197.39
650	44.818	4481.62	44.233	250	3626	24999	246.74
700	48.265	4826.36	47.635	300	4351	29999	296.08
750	51.713	5171.10	51.038	350	5076	34999	345.43
800	55.160	5515.84	54.440	400	5801	39999	394.78
850	58.608	5860.58	57.843	450	6526	44999	444.13
900	62.055	6205.32	61.245	500	7252	49999	493.47
950	65.503	6550.06	64.648	550	7977	54998	542.82
1000	68.950	6894.80	68.050	600	8702	59998	592.17
1100	75.845	7584.28	74.855	650	9427	64998	641.52
1200	82.740	8273.76	81.660	700	10152	69998	690.86
1300	89.635	8963.24	88.465	750	10877	74998	740.21
1400	96.530	9652.72	95.270	800	11603	79998	789.56
1500	103.425	10342.20	102.075	850	12328	84998	838.90
1600	110.320	11031.68	108.880	900	13053	89997	888.25
1700	117.215	11721.16	115.685	950	13778	94997	937.60
1800	124.110	12410.64	122.490	1000	14503	99997	986.95
1900	131.005	13100.12	129.295				
2000	137.900	13789.60	136.100				
2500	172.375	17237.00	170.125				
3000	206.850	20684.40	204.150				
3500	241.325	24131.80	238.175				
4000	275.800	27579.20	272.200				
4500	310.275	31026.60	306.225				
5000	344.750	34474.00	340.250				
5500	379.225	37921.40	374.275				
6000	413.700	41368.80	408.300				
6500	448.175	44816.20	442.325				
7000	482.650	48263.60	476.350				
7500	517.125	51711.00	510.375				
8000	551.600	55158.40	544.400				
8500	586.075	58605.80	578.425				
9000	620.550	62053.20	612.450				
9500	655.025	65500.60	646.475				
10000	689.500	68948.00	680.500				

Conversion Factors

1 psi = 0.06895 bar

1 bar = 14.50326 psi

1 psi = 6.8948 KPa

MPa to KPa:

KPa = 1000 x MPa

KPa to MPa:

MPa = 0.001 x KPa

Fluid Viscosity Characteristics Chart

Fluid Name	Temperature deg. C	Viscosity Centistokes	Density kg / litre	Fluid Name	Temperature deg. C	Viscosity Centistokes	Density kg / litre
Acetaldehyde	20	0.295	0.788	Machine oil - light	20	47	0.9
Acetic Acid	20	1.232	1.048	Machine oil - medium	20	850	0.94
Acetic acid anhydride	20	0.88	1.084	Mayonnaise	20	2	--
Acetone	20	0.41	0.79	Mercury	20	0.119	13.57
Allyl alcohol	20	1.603	0.852	Methyl acetate	20	0.44	0.959
Allyl alcohol	30	1.36	0.848	Methyl acetate	40	0.35	0.916
Allyl chloride	20	0.354	0.94	Methyl alcohol	0	1.04	0.81
Aluminum chloride [5% sol]	20	3.54	1.03	Methyl alcohol	10	0.855	0.801
Aluminum nitrate [10% sol]	20	4.54	1.051	Methyl alcohol	20	0.745	0.792
Aluminum sulphate [10% sol]	20	1.34	1.115	Methyl glycol	20	1.6	0.975
Amyl acetate	20	4.34	0.885	Methylene chloride	20	0.9	1.326
Aniline	10	6.4	1.03	Milk	20	1.13	1.035
Aniline	20	4.37	1.021	Molasses 80 Bx	20	10	--
Beer	20	1.8	0.996	Molasses 83 Bx	20	50	--
Benzene	20	0.744	0.879	Molasses 85 Bx	20	100	--
Benzene	30	0.65	0.868	Nitro benzine	20	1.67	1.203
Benzene	40	0.58	0.858	Nonane	0	1.35	0.733
Benzene	50	0.54	0.847	Nonane	10	1.15	0.725
Benzyl alcohol	20	5.52	1.045	Nonane	20	1	0.717
Bromine	20	0.34	3.12	Octane	0	1.05	0.719
Butyl acetate	20	0.832	0.885	Octane	10	0.935	0.711
Butyl alcohol	20	3.64	0.81	Octane	20	0.805	0.702
Butyl alcohol	30	2.85	0.803	Octane	40	0.64	0.685
Butyric acid n	0	2.35	0.977	Oil SAE 10W - 30	20	130	0.875
Butyric acid n	20	1.61	0.957	Oil SAE 10W	20	115	0.87
Calcium chloride [25% sol]	20	3.9	1.227	Oil SAE 20W - 20	20	200	0.885
Calcium chloride [5% sol]	20	1.161	1.037	Oil SAE 30	20	350	0.89
Carbolic acid	20	11.3	1.078	Oil SAE 40	20	900	0.9
Carbolic acid	30	9.7	1.069	Oil SAE 50	20	950	0.902
Carbolic acid	40	7.95	1.059	Olive oil	20	91.5	0.91
Carbon disulphide	0	0.33	1.292	Palm oil	20	130	--
Carbon disulphide	10	0.316	1.277	Paraffin oil	20	2.4	0.804
Carbon disulphide	20	0.298	1.262	Paraffin oil	30	1.85	0.78
Carbon tetrachloride	20	0.612	1.595	Pentane	0	0.44	0.646
Carbon tetrachloride	30	0.525	1.525	Pentane	10	0.39	0.636
Castor oil	20	1017	0.96	Pentane	20	0.36	0.626
Castor oil	40	315	0.95	Phenol	20	11.3	1.078
Castor oil	60	115	0.94	Phenol	40	7.95	1.059
Caustic soda 50%	20	45	--	Polyester resin	20	3	--
China wood oil	20	308	0.933	Polymer solution	20	20	--
Chloroform	20	0.38	1.489	Potassium hydroxide	20	67	--
Chloroform	40	0.37	1.452	Printing ink (and colours)	20	550-2,200	--
Chloroform	60	0.35	1.415	Propanol	20	2.8	0.804
Cod-liver oil	40	35	--	Propanol	40	1.7	0.786
Cotton seed oil	20	76	0.926	Propanol	50	1.4	0.777
Cream, 30-50% fat	20	11-115	--	Propionic acid	20	1.13	0.99
Cyclohexanol	20	71	0.952	Propylene glycol	20	54	1.038
Cyclohexanone	20	4.9	0.952	Rapeseed oil	20	178	0.92
Cylinder oil	20	50000	0.94	Sea Water	0	1.774	1.028
Dioxan	20	2	1.03	Sea Water	10	1.346	1.028
Ethyl acetate	20	0.51	0.905	Sea Water	20	1.044	1.025
Ethyl alcohol	20	1.51	0.772	Sea Water	40	0.659	1.019
Ethyl alcohol	40	1.16	0.737	Sea Water	60	0.442	1.01
Ethyl glycol	20	2.3	0.93	Sea Water	80	0.311	0.998
Ethylene glycol	20	18	1.112	Shampoo	20	3	--
Ethylene glycol	30	16.5	1.104	Sodium chloride [25% sol]	20	2.4	1.19
Formic acid	20	1.5	1.22	Sodium hydroxide [20% sol]	20	4	1.226
Formic acid	30	1.38	1.208	Sodium hydroxide [30% sol]	20	10	1.33
Fuel oil (E1) Extra light	20	6	0.85	Soya bean oil	20	75	0.926
Fuel oil (l) light	20	16.5	0.91	Styrene	20	0.9	0.926
Fuel oil (m) medium	20	520	0.99	Sulphuric acid	20	14.6	1.839
Fuel oil (s) heavy	20	8000	0.99	Tetrachlorethane	20	1.1	1.593
Furfural	20	1.45	1.16	Tetrachlorethylene	20	0.95	1.621
Gear oil	20	3000	0.905	Toluene	20	0.68	0.867
Gelatine	45	1.2	--	Toluene	40	0.55	0.849
Glycerine	20	1183	1.261	Toluene	60	0.46	0.831
Glycol	20	20	--	Tomato ketchup	30	1	--
Heptane	0	0.74	0.702	Transformer oil	20	30	0.95
Heptane	10	0.66	0.692	Trichlorethylene	20	0.96	1.463
Heptane	20	0.6	0.682	Water	0	1.788	1
Heptane	40	0.51	0.661	Water	10	1.307	1
Hexane	0	0.62	0.678	Water	20	1.002	0.998
Hexane	10	0.57	0.668	Water	40	0.662	0.992
Hexane	20	0.51	0.658	Water	60	0.475	0.983
Hexane	40	0.4	0.639	Water	80	0.365	0.972
Honey	40	2	--	Water	100	0.295	0.958
Kerosine	20	2.4	0.804	Xylene-o	20	0.93	0.864
Kerosine	30	1.85	0.78	Xylene-o	40	0.74	0.847
Linseed oil	20	47	0.92	Yogurt	40	150	--

Notes

Notes



Companies House

Centenary Certificate
of
HARTLE IGE LTD.

Registration Number: **00141725**

Incorporated on: **30th September 1915**

I hereby certify that the above company has today
been registered at Companies House for 100 years.



Tim Moss

Chief Executive and Registrar of Companies
for England and Wales

Companies House is an Executive Agency of the Department for Business, Innovation and Skills (BIS)

‘everything
working’

IGE
INDUSTRIAL & GARAGE EQUIPMENT



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