

Fuel Transfer Equipment & Oil Heating Products



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Manual Delivery Nozzle



- Cast aluminium construction.
- Suitable for use with diesel, paraffin & Gas oil.
- NBR seals
- Suitable for bowsers & gravity Systems
- 1" BSPF swivel inlet. (other sizes available)
- Integral hook (Lockable wall mount nozzle holster available)
- Max. pressure 60 psi (4 bar), max. flow rate 80 L/min.

Code	Description
NZ010-F	Manual refuelling nozzle c/w swivel inlet 1" BSPF
NZ010-M	Manual refuelling nozzle c/w swivel inlet 25mm Hose Tail
NZ015-F	Manual refuelling nozzle c/w swivel inlet 1" 1/2" BSPF

Budget Automatic Delivery Nozzle



- Low profile aluminium body with Auto shut-off when tank is full
- Suitable for use with diesel, paraffin & gas oil..
- Duratuff lever, plastic guard in a choice of colours.
- "Accu-stop" flow control, for precise re-fuelling.
- Flowrate 20mm spout 18-60 L/min.
- 1" BSPF swivel inlet. (Bushed from 3/4")
- Pumped systems only, not suitable for gravity feed.

Code	Description
NZ002-R	Auto refuelling nozzle 1" BSPF swivel (red guard)
NZ002-B	Auto refuelling nozzle 1" BSPF swivel (blue guard)
NZ002-G	Auto refuelling nozzle 1" BSPF swivel (green guard)

Premium Automatic Delivery Nozzle



- Body with Auto shut-off when tank is full
- Suitable for use with diesel, paraffin & gas oil.
- Guards available in a choice of colours + OEM branding facility
- Smooth start - stop action
- Max. pressure 7-50 psi (0.5-3.5 bar) flow rate 10 - 80 L/min (std)
- Max. pressure 7-50 psi (0.5-3.5 bar) flow rate 140 L/min (.25 vers)
- 1" BSPF swivel inlet.
- Pumped systems only, not suitable for gravity feed.

Code	Description
NZ010-A	Auto refuelling nozzle 1" BSPF swivel (# 4 guard)
NZ012-A	Auto refuelling nozzle (.25 vers) 1" BSPF swivel

ZVA Automatic Delivery Nozzle



- Aluminum body with Auto shut-off when tank is full
- Suitable for use with petrol, diesel, paraffin & gas oil.
- A range of guard colours & spout sizes are available
- Max. pressure 7-58 psi (0.5-4 bar) flow rate 10 - 80 L/min (Slimline)
- Max. pressure 7-50 psi (0.5-3.5 bar) flow rate 80 - 140 L/min (.25)
- 1" BSPF swivel inlet.
- Pumped systems only, not suitable for gravity feed.

Code	Description
NZ007-Z	ZVA Auto nozzle (Slimline) 1" BSPF swivel (# 4 guard)
NZ010-Z	ZVA Auto nozzle (ZVA.25) 1" BSPF swivel (# 4 guard)

High Flow Automatic Delivery Nozzle



- Aluminium body with Auto shut-off when tank is full
- Suitable for use with diesel, paraffin & gas oil.
- High-Flow for truck, bus and heavy plant re-fuelling
- Ergonomic design for ease of use
- Max 50 psi (3.5 Bar) Max Flow 250 L/min
- Pumped systems only, not suitable for gravity feed.

Code	Description
NZ015-A	Hi-Flo auto refuelling nozzle 1" BSPF
SW015	Swivel 1" BSPF

Nozzle Holsters



- Wall mounted for safely holstering nozzle
- Cast aluminium type supplied with or without switch
- Cast Aluminium type will accept Auto nozzle with #4 guard
- Lockable (in accordance with Oil Storage regs 2000)

Code	Description
NZH002	Cast aluminium wall holster without switch
NZH001	Cast aluminium wall holster with switch
NZH003	Standard lockable holster for 3/4" & 1" automatic nozzles
NZH004	Standard lockable holster for manual/gravity feed nozzles

Hose Assemblies



- NBR, Nitrile, PVC, EPDM, Viton, Teflon available.
- Sizes from 12mm to 80mm diameter
- Available cut to any length, suitable for suction and/or delivery
- Various end fitting options

Code	Description
H25/Ni	25mm ID NBR fuel delivery hose (10 Bar)
H19/Ni	19mm ID NBR fuel delivery hose (10 Bar)
H12/Oi	12mm ID Oil delivery hose (140 Bar)
H25/Pv	25mm ID PVC/Nitrile budget fuel hose (10 Bar)
H19/Pv	19mm ID PVC/Nitrile budget fuel hose (10 Bar)
H19/Vi	19mm ID Viton additive hose (20 Bar)
H19/Ep	19mm ID Viton additive hose (20 Bar)
H50/Pvx	50mm ID Helix Wound bulk delivery/suction hose (36 Bar)
H25/Pvx	25mm ID Helix Wound suction hose (>7m.H2O / 6 Bar)

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Gravity Feed Delivery Kits



- Suitable only for certain installations
- Supplied with rigid lockable draw off point

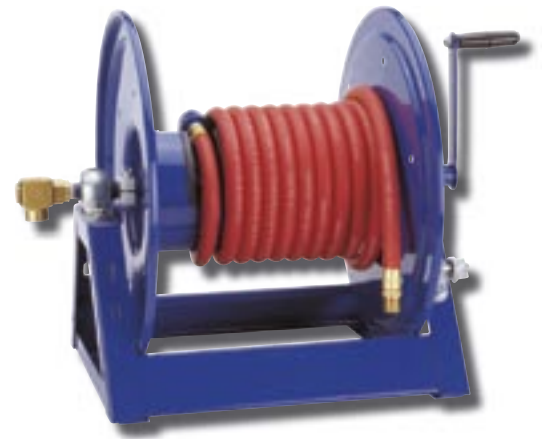
- Conforms to both oil storage regs 2000 & Agricultural Silage & Slurry Act

Code	Description
GF3i	3m Delivery kit (inline)
GF3L	3m Delivery kit (90 degree)
GF4L	4m Delivery kit (90 degree)

Hose Reels

- High-quality Stainless steel construction and / or durable epoxy powder-coat finish
- Can be supplied with any of our hoses fitted up to 60m in length
- Available with either electric, manual or self winding drums
- Suitable for hoses from 12mm to 40mm Diameter
- Adjustable guide arm enabling installation in any orientation
- Non-sparking locking mechanism with self lubricating bearings

Code	Description
SR8/25	Self Winding Drum, 1" BSP Connection 7.5m
SR8/50	Self Winding Drum, 1" BSP Connection 15.0m
SR8/75	Self Winding Drum, 1" BSP Connection 22.5m
SR12/25	Self Winding Drum, 1 1/2" BSP Connection 7.5m
SR12/50	Self Winding Drum, 1 1/2" BSP Connection 15.0m
MR8/50	Manual Crank Drum, 1" BSP Connection 15.0m
MR8/100	Manual Crank Drum, 1" BSP Connection 30.0m
MR8/200	Manual Crank Drum, 1" BSP Connection 60.0m
MR12/100	Manual Crank Drum, 1 1/2" BSP Connection 30.0m



1" Flow Meter -GM100



- High accuracy positive displacement design
- Suitable for use with most fuels, oils and other liquids
- 3 - 80 Ltrs/min. Accuracy +/- 1% of Reading
- Max. pressure 145 psi (10 Bar)
- Aluminium body 1" BSPF ports and integral inlet strainer
- Register can be rotated in 90° steps
- Pumped Systems or gravity feed, no flow conditioning required.
- 4 Digit Resettable Total / 6 Digit Non Resettable Total

Code	Description
GM100	Mechanical Flow Meter 1" BSPF - Aluminium Body

1 1/2" Flow Meter -G40



- High accuracy positive displacement design
- Suitable for use with most fuels, oils and liquids up to 1000 Cps
- 10 - 250 Ltrs/min. Accuracy +/-1% of reading (+/-0.5% LCD version)
- Max. pressure 800 psi (55 Bar) or flange rule if fitted
- Aluminium or S/S body 1 1/2" BSPF ports (flanged available)
- Register can be rotated in 90° steps (Mechanical or LCD options)
- Pumped systems or gravity feed, no flow conditioning required.
- 4 Digit resettable total / 6 Digit non resettable Total

Code	Description
G40ARM-1	Mechanical Flow Meter 1 1/2" BSPF - Aluminium Body
G40ARG-1	LCD Flow Meter 1 1/2" BSPF - Aluminium Body 10:1 Pulse
G40SSM-1	Mechanical Flow Meter 1 1/2" BSPF - 316 S/S Body
G40SSG-1	LCD Flow Meter 1 1/2" BSPF - 316 S/S Body 10:1 Pulse

Budget 1" Flow Meter -CT80



- Popular nutating disc design
- Suitable for use with most fuels, light oils (other liquids on request)
- 20 - 80 Ltrs/min. Accuracy +/- 2% (field adjustable calibration)
- Max. pressure 51 psi (3.5 Bar)
- Polypropylene body 1" BSPF ports
- Register can be rotated in 90° steps
- Pumped systems or gravity feed
- 3 Digit Resettable Total / 6 Digit Non Resettable Total

Code	Description
CT80	Mechanical Flow Meter 1" BSPF - PP Body - Brass fittings
CT80-SS	Mechanical Flow Meter 1" BSPF - Nylon Body - S/S fittings

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1" Flow Meter -Z300



- Popular nutating disc design
- Suitable for use with most fuels and low viscosity oils
- 20 -120 Ltrs/min. Accuracy: +/- 3%. Repeatability: +/- 1%
- Max. pressure 51 psi (3.5 Bar)
- Aluminium body 1" BSPF ports
- Register can be rotated in 90° steps
- Pumped systems or gravity feed
- 3 Digit resettable total / 6 Digit non resettable Total

Code	Description
Z300	Mechanical Flow Meter 1" BSPF - Aluminium Body

1" Flow Meter -MD130



- Popular nutating disc design
- Versatile mounting options/angles
- Suitable for use with most fuels and low viscosity oils
- 19 -114 Ltrs/min. Accuracy: +/- 2%. Field adjustable calibration
- Max. pressure 50 psi (3.4 Bar)
- Aluminium body 1" BSPF ports (3/4" & 1 1/2" models available)
- Register can be re-orientated
- Pumped systems or gravity feed
- 4 Digit resettable total / 7 Digit non resettable total

Code	Description
MD130	Mechanical Flow Meter 1" BSPF - Aluminium body
MD130	Mechanical Flow Meter 1 1/2" BSPF - Aluminium body

1" Electronic Flow Meter -FM12



- In-Line turbine design with integral LCD
- Suitable for use with most fuels
- 10 -110 Ltrs/min. Accuracy: +/- 5%. Repeatability: +/- 0.5%
- Max. pressure 300 psi (20.4 Bar)
- Aluminium body 1" BSPF ports
- Two AAA Batteries - Estimated battery life: 1 Year
- Pumped systems or gravity feed
- 4 Digit resettable total & accumulated total

Code	Description
01A12LM	Electronic Flow Meter 1" BSPF - Aluminium Body

Note: ATEX certified version also available

1/2" Dispensing Flow Meter -IM50



- In-Line high accuracy positive displacement design
- Suitable for use with most fuels, oils and other liquids
- 1 - 30 Ltrs/min. Accuracy +/-0.5% of reading)
- Max. pressure 1500 psi (103.5 Bar)
- Aluminium body 1/2" BSPF ports (red, blue, yellow, green shrouds)
- Two AAA batteries - estimated battery life: 2 Years
- Pumped Systems or gravity feed, no flow conditioning required.
- 6 Digit Display: Batch/Total/Acc-Total/Rate (Pulse Output Option)

Code	Description
IM50-1	Electronic LCD Flow Meter 1/2" BSPF - Aluminium Body
IM50P-1	Electronic PULSE Flow Meter 1/2" BSPF - Aluminium Body

GEMINI Flow Meter range

- High accuracy positive displacement design
- Individual calibration sheets supplied
- Suitable for use with most liquids from 1 to 1 million centistokes
- Pumped systems or gravity feed, no flow conditioning required.
- Aluminium, 316 SS, bronze or acid proof PPS body options.
- BSP, NPT, ANSI or DIN Flanged versions
- Pulse only, mechanical register or LCD register options (ATEX)



Code	Description
G05XXX-X	0.5 - 5 Litres/Hour, 1/8" BSPF
G1XXX-X	2 - 100 Litres/Hour, 1/4" BSPF
G2XXX-X	15 - 500 Litres/Hour, 1/4" BSPF
G4XXX-X	1 - 30 Litres/Min, 1/2" BSPF
G10XXX-X	6 - 120 Litres/Min, 1" BSPF
G40XXX-X	10 - 250 Litres/Min, 1 1/2" BSPF
G50XXX-X	15 - 350 Litres/Min 2" BSPF
G80XXX-X	33 - 733 Litres/Min, 3" BSPF
G100XXX-X	66-1200 Litres/Min, 4" BSPF

For full product details, see our flow meters & instrumentation brochure

3/4" Dispensing Flow Meter -IM75



- In-Line high accuracy positive displacement design
- Suitable for use with most fuels, oils and other liquids
- 3 - 60 Ltrs/min. Accuracy +/-0.5% of Reading)
- Max. pressure 1500 psi (103.5 Bar)
- Aluminium body 3/4" BSPF ports (red, blue, yellow, green shrouds)
- Two AAA Batteries - Estimated battery life: 2 Years
- Pumped systems or gravity feed, no flow conditioning required.
- 6 Digit Display: Batch/Total/Acc-Total/Rate

Code	Description
IM75-1	Electronic LCD Flow Meter 3/4" BSPF - Aluminium Body
HG100	High Flow Oil Delivery Gun Kit - Fixed Anti Drip Spout

1" Electronic Flow Meter -FMT



- In-Line Turbine design with integral LCD
- Suitable for use with most fuels
- 5 -125 Ltrs/min. Accuracy: +/- 1%. (field calibration adjustment)
- Max. pressure 29 psi (2 Bar)
- Polypropylene body 1" BSPM ports
- Lithium battery- estimated battery life: 2 Years
- Pumped Systems or gravity feed
- 4 Digit Resettable Total / 6 Digit non resettable Total + batch functions

Code	Description
FMT40	Electronic Flow Meter 1" BSP 5-45 litre/min
FMT50	Electronic Flow Meter 1" BSP 10-55 litre/min
FMT80	Electronic Flow Meter 1" BSP 20-85 litre/min
FMT120	Electronic Flow Meter 1" BSP 20-120 litre/min

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Low-Flow Fuel Meters -GZO



- Accurate rotary piston design
- Suitable for use with most heating fuels
- 0.5 - 350 Ltrs/Hour (3 Models). Accuracy +/-1% of Reading
- Max. pressure 362 psi (25 Bar)
- Brass body - Very low pressure drop
- Pumped systems or gravity feed, no flow conditioning required.
- 6 Digit Non resettable mechanical total (IP65 Roller Counter)
- Compression fittings kits available (8mm and 10mm Copper)

Code	Description
GZ04	10mm Compression 0.5 to 50 litre/hr (suitable for most domestic applications)
GZ04-RE0.1	10mm Compression 0.5 to 50 litre/hr fitted with pulse output for remote metering
GZ08	1/4" BSP 4 to 135 litre/hr (suitable for most domestic applications)
GZ015	3/4" BSP 10 to 350 litre/hr

Bulk Flow Meter-



- High accuracy positive displacement design
- Suitable for use with most fuels and oils (low or high viscosity)
- Custody transfer approval on request
- Aluminium or S/S body options. BSPF or Flanged versions
- Mechanical or electronic register options
- Pumped systems or gravity feed, no flow conditioning required.
- Accessories: preset, mechanical linkage, ticket printer, air eliminator, filter etc

Code	Description
	Contact us for information on this range

Preset Digital Hose End Meter -ZVE



- Oil nozzle with electronic counter suitable for oil up to SAE240
- Supplied with Anti-drip nozzle (flexible or fixed 60° angle spout)
- 0.5 - 40 Ltrs/min. Accuracy +/-0.5%
- Max. pressure 580 psi (40 Bar)
- Aluminium body 1/2" BSPF ports
- Lithium battery
- RS422 interface option.
- 6 Digit dispensing display

Code	Description
027 170 471	Hose end meter 1/2" BSPF- Aluminium body -Fixed spout
027 170 481	Hose end meter 1/2" BSPF- Aluminium body -Flexible spout

Lever Hand Pump -TP3



- Suitable for use with most fuels, light oils and other liquids
- Capacity 0.35 l / stroke (40 L/min)
- Double acting, self priming when dry
- Suction tube up to 840 mm
- Drum thread 2" BSPM
- Heavy duty aluminium construction

Code	Description
103 153 000	TP3 Aluminium Hand Pump 2" BSPM
105 213 000	TP3 Aluminium Hand Pump 2" BSPM fitted with flow meter

Lever Hand Pump -HP100 Dual Flow



- Suitable for use with most fuels, light oils and other liquids
- Capacity 1.9 l / stroke / Dual Flow up to 110 L/min
- Double acting, self priming when dry
- Telescopic suction tube, adjustable depth 55 - 100 cm
- Drum thread 2" BSPM
- Heavy duty aluminium construction

Code	Description
HP100	HP100 Aluminium Hand Pump 2" BSPM (NBR Seal Kit)
HP100C	HP100 Aluminium Hand Pump 2" BSPM (Viton Seal Kit)

Rotary Hand Pump -KP01



- Suitable for use with most fuels/oils
- Capacity flow up to 25 L/min
- Self priming when dry
- Steel suction tube with foot entry mesh
- Drum thread 2" BSPM
- Heavy duty cast Iron construction

Code	Description
KP01	KP01 Cast Iron Rotary Hand Pump 2" BSPM

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Air operated pump -DP15



- Suitable for use with motor oil up to SAE 50, hydraulic
- Capacity 40 l / min.
- Ratio 1:1
- Fitted with compressed air service unit
- Drum thread 2" BSPM
- Suction tube up to 840 mm

Code Description

120 420 000	DP15 Compressed Air Pump 40 l/min 2" BSPM
321 425 000	DP15 Compressed Air Pump 40 l/min 2" BSPM c/w Delivery Kit (2.5m delivery hose, swivel & trigger nozzle)

Air operated pump -DP35

- Suitable for use with motor oil up to SAE 60, hydraulic oil, gear oil up to SAE 140
- Capacity 22 l/min.
- Ratio 3:1
- Fitted with compressed air service unit
- Drum thread 2" BSPM
- Suction tube up to 840 mm

Code Description

121 420 000	DP35 Compressed Air Pump 22 l/min 2" BSPM
333 174 400	DP35 Compressed Air Pump 22 l/min 2" BSPM c/w Delivery Kit (4m delivery Hose, swivel & oil trigger nozzle)
333 184 000	DP35 compressed air pump 22 l/min 2" BSPM c/w delivery kit (4m delivery hose, oil trigger nozzle + LCD flow meter)

Electric Oil Pump -Visconett II



- Ideally suited to viscous oils up to SAE 80
- Capacity approx. 25 l/min 230V 740 W (15 l/min 370 W)
- Self-priming when dry
- Threaded 2" BSPM
- Max. viscosity 2000 Cst
- Suction tube up to 840 mm
- Supplied with 4m discharge hose, oil nozzle ZV 2000
- Integral on/off switch / also features thermal safety cut-out

Code Description

104 123 700	Visconett II Oil pump 230V, 2" BSPM
104 133 700	Visconett IIF Oil pump 230V, 2" BSPM c/w LCD Meter

Electric Pump - Hornet W40



- Suitable for use with most fuels, light oils and other liquids
- Capacity approx. 40 l/min 12V or 24V and 230V versions
- Self priming
- Integrated anti-siphon safety feature prevents costly spills
- Drum thread 2" BSPM
- Supplied with suction hose & filter, 4m delivery hose & nozzle
- Also available as pump only

Code Description

104 428 700x	Hornet W40 Electric Pump 230V / Manual Nozzle Kit
104 438 700x	Hornet G40/12 Electric Pump 12V / Manual Nozzle Kit
104 448 700x	Hornet G40/24 Electric Pump 24V / Manual Nozzle Kit

Electric Pump - Hornet W50



- Suitable for use with most fuels, light oils and other liquids
- Capacity approx. 55 l/min
- 12V or 24V and 230V versions
- Self priming vane pump, continuously rated with thermal cut-out
- Integrated anti-siphon safety feature prevents costly spills
- Mounting thread 2" BSP
- Supplied with suction hose & filter, 4m delivery hose & Auto nozzle
- Also available as pump only

Code	Description
106 508 700	Hornet W50 II Electric Pump 230V / Auto Nozzle Kit
106 538 700	Hornet G50 II/12 Electric Pump 12V / Auto Nozzle Kit
106 548 700	Hornet WG50 II/24 Electric Pump 24V / Auto Nozzle Kit
106 708 700	Hornet W50 II Atex certified Electric Pump 230v AC
106 498 700	Hornet W50 II Electric Pump 230v AC (Bio-diesel version)
106 578 700	Hornet W50 II Electric Pump 230v AC (Additive version)
106 500 001	Hornet W50 II Pump only with 230v AC Motor

Electric Pump - Hornet W80 and W120



- Suitable for use with most fuels, light oils and other liquids
- Capacity approx. 85 l/min and 120 L/min 230 V
- Self priming vane pump, continuously rated with thermal cut-out
- Integrated anti-siphon safety feature prevents costly spills
- Mounting thread 2" BSP
- Supplied with suction hose & filter, 4m delivery hose & auto nozzle
- Also available as pump only

Code	Description
108 808 700	Hornet W80 Electric Pump 230V / Auto Nozzle Kit
108 800 000	Hornet W80 Electric Pump 230V (pump only)
108 908 700	Hornet W120 Electric Pump 230V / Auto Nozzle Kit
108 900 000	Hornet W120 Electric Pump 230V (pump only)

PUMP KITS (BESPOKE DESIGN & ASSEMBLY)



- Bespoke Panel Mount/Cabinet Build Assemblies Refuelling & Adblue Systems
- Self priming pump, continuously rated with thermal cut-out
- Integrated anti-siphon safety feature prevents costly spills
- Innovative Quick release electrical & mechanical connections
- Can be built to suit any application / tank size
- Production runs from 1-off to 1000 pieces

Code	Description
	Please contact us for further information

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Fuel-Eco-Box II (50 L/min)



- Compact wall mount diesel fuel dispenser
- Capacity approx. 50 l/min
- +/-2% Meter accuracy
- Supply 230V AC (Auto pump on/off holster switch/timer)
- Self priming vane pump, continuously rated with thermal cut-out
- Integrated anti-siphon safety feature prevents costly spills
- Supplied with 1.6m suction hose with filter, 4m delivery hose & auto shut-off nozzle

Code	Description
110 300 001	Fuel-Eco-Box II, Supply 230V AC, Wall Mounted

Portable Battery Kit



- Suitable for use with diesel or gas oil
- Capacity approx. 35 l/min 12V or 24V
- 3/4" BSPF
- Supplied with red & black battery crocodile clips
- Supplied with suction hose, filter, 4m delivery hose & nozzle
- Also available as pump only or pump with flow meter

Code	Description
228-12	Battery Pump 12V DC inc/of Manual Nozzle Kit
228-24	Battery Pump 24V DC inc/of Manual Nozzle Kit
228-12CT80	Battery Pump 12V DC inc/of Manual Nozzle Kit & Flow Meter
228-24CT80	Battery Pump 24V DC inc/of Manual Nozzle Kit & Flow Meter

Lever Drum Pump J3016



- Suitable for use with diesel, oils & antifreeze
- For use with 205 Litre drums
- Capacity 400cc stroke
- Self priming when dry
- Telescopic suction tube with NRV
- Drum thread 2" BSPM
- Durable aluminium construction

Code	Description
J3016	Aluminium Drum Pump 2" BSPM

Fuel Transfer Intelligence

Fuel Transfer Intelligence (Diesel Master HDM & HDB)



- Inventory Control System, will monitor all deliveries either remotely from a Windows Based PC or send transactions to a printer.
- Floor standing or shelf mount options
- +/- 0.5% Meter Accuracy (0.3% also available)
- PIN number access as standard (Wireless ID Option Available)
- Self priming vane pump, continuously rated with thermal cut-out
- Integrated anti-siphon safety feature prevents costly spills
- Available in either 50, 60, 80 or 120 litre/min options

Code	Description
HDB50	Shelf/Pedestal mount 50 litre/min pumping system
HDB80	Shelf/Pedestal mount 80 litre/min pumping system
HDA80	Floor Standing 80 litre/min pumping system
HDA120/50	Floor Standing twin Delivery Dispenser 120 + 50 litre/min
HDM3108e	Floor Standing Dispenser Incorporating Tank Level Gauge
HDO001	PC Connection & Windows Based Software
HDO002	Wireless Transponder Technology over PIN Number Access
HDO003	Local/Remote Printer & Connecting Lead
HDO004	GSM Transmitter & Windows Based Software

Fuel Transfer Intelligence (HDA)



- Enables bespoke fuel transfer intelligence system build
- Inventory control system, monitor all transactions either remotely from a Windows Based PC or printed directly
- PIN number access as standard (Wireless ID Option Available)
- Can be used with most pulse output flow meters
- Can be used with all electric or pneumatic pumps
- Versatile Instrument can be used for most applications

Code	Description
HDA98	PIN access Fuel transfer Intelligence System (Wall mount)
HDO001	PC Connection & Windows Based Software
HDO002	Wireless Transponder Technology over PIN Number Access
HDO003	Local/Remote Printer & Connecting Lead
HDO004	GSM Transmitter & Windows Based Software
HDO005	Automated Valve Control (relay outputs)
HDO006	Automated Pump Control (relay outputs)

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Level Master Tank Inventory Intelligence



- Enables Bespoke Tank Inventory System Build
- Monitor all tank levels either locally or remotely from a PC.
- Each Controller can monitor up to either 4 or 8 storage vessels
- Expansion Pack enables monitoring of up to 500 vessels
- Atex Versions available for hazardous area installation
- Suitable for tanks up to 5.4m in Depth (accurate to +/- 0.5%)
- Versatile Instrument can be used for most level monitoring applications, LCD indicates in various units (Kg, Litre, Gallon, %)

Code Description

224 000 000	Level Master Basic Instrument (for up to 8 tanks)
224 000 200	Level Master Instrument with PC connection & Software
224 200 000	Level Master Instrument with analogue modem
226 000 000	Level Master Compact Instrument (for up to 4 tanks) with software
224 010 000	Standard Probe for tanks (accurate to +/- 0.5%)
224 010 001	Atex certified Probe for tanks (accurate to +/- 0.5%)
224 000 100	Expansion Pack



Batch Control Management System TMS & TKS III



- Enables Bespoke Batch System Build
- Monitor multiple dispensing lines either locally or remotely from a PC.
- Each Device can Control up to either 4 or 8 Dispensing Lines
- Expansion Pack enables Control of up to 500 Lines
- PIN number access as standard (Wireless ID option available)
- Versatile Instrument can be used for almost any batching application

Code Description

304 616 9.1	TMS basic Instrument (for up to 8 lines)
304 617 0.1	TKS basic Instrument (for up to 4 lines)
TMS001	Wireless transponder technology over PIN number access
305 609 1.1	PC connection with Windows based control software
304 650 2.1	Printer & connection lead (V24 RS232)
304 650 1.1	Bar code scanner
304 652 1.1	Expansion pack (gateway)

TFV Firevalves to BS5410: pt1 & OFS E101



The TFV fire safety valve was designed to address the growing requirement of oil fired heating protection.

Manufactured to adhere to building regulations (BS5410) and certified to OFTEC standard OFS E101. This British made product is the market leader for performance & reliability.

Available in a wide range of sizes from 10mm to 3/4" BSP. This valve has not only proven sensitive enough to cope with the minimal flows experienced within a domestic application but it is also capable of the high flow rates demanded for industrial installations.

Each unit is individually tested before leaving the factory.

All of these features ensure that this system is both a reliable & cost effective solution to almost any oil heating application

Code	Description
FV87030	3/8" x 10mm, 72°C, supplied with nuts & olives - 3m Length
FV87060	3/8" x 10mm, 72°C, supplied with nuts & olives - 6m Length
FV87100	3/8" x 10mm, 72°C, supplied with nuts & olives - 10m Length
FV89020	3/8" x 10mm, 95°C, supplied with nuts & olives - 2m Length
FV27030	1/2" Female BSP, 72°C - 3m length
FV27060	1/2" Female BSP, 72°C - 6m length
FV29060	1/2" Female BSP, 95°C - 6m length
FV29250	1/2" Female BSP, 95°C - 25m length
FV47100	3/4" Female BSP, 72°C - 10m length

Tigerloop T-230i De-aerator



The New Tigerloop T-230i supersedes its predecessor the T-110i.

The most noticeable advantages the T-230i has over the T-110i is that it has more than twice the de-aeration capacity than the existing model and is now also equipped with an anti foaming feature. Furthermore the T-230i also benefits from a unique overpressure valve which protects other vital components in the system, including the boiler itself.

Manufactured in accordance with OFTEC standards, this well recognised product is the market leader for performance & reliability. This device has not only proven sensitive enough to cope with the minimal flows experienced within a domestic application but it is also capable of the high flow rates demanded for industrial installations.

Each unit is individually tested before leaving the factory

Code	Description
T-230i	Tigerloop external 0.8 litre/hr de-aerator 1/4" BSP connections
T-230+	Tigerloop external 0.8 litre/hr de-aerator 1/4" BSP connections with uptake filter
GS2000	GOK internal 0.6 litre/Hr de-aerator 3/8" BSP connections

NOZZLES
& HOSES

FLOW
METERS

PUMPS

Fuel Transfer
Intelligence

HEATING OIL
EQUIPMENT

FUEL TANK
EQUIPMENT

FILTERS &
FITTINGS

ADBLUE
EQUIPMENT

Heating Oil Equipment

NOZZLES & HOSES

FLOW METERS

PUMPS

Fuel Transfer Intelligence

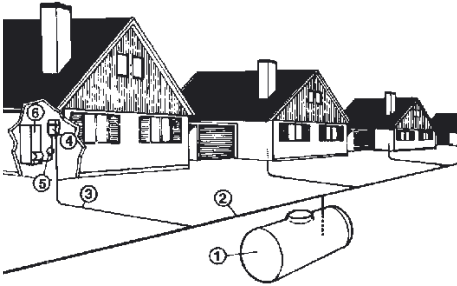
HEATING OIL EQUIPMENT

FUEL TANK EQUIPMENT

FILTERS & FITTINGS

ADBLUE EQUIPMENT

BM Oil Lifter



The BM Oil lifter is a unique product which enables the transfer of oil into high level installations

The BM Oil lifter draws fuel up from a storage vessel below & retains a small volume of oil in its internal reservoir. The fuel in the reservoir is then gravity fed into the burners supply line.

Requires 230v AC supply, internal installation only.

Max Lift: 8m (26 feet)

Max Capacity: 20 litre/hr

Suitable for use with both pressure jet & vapouriser type burner units.

Code	Description
BM-346	3 litre reservoir version
BM-347	12 litre reservoir version

GZO Oil Heating Meter



The GZO Domestic oil meter is ideal for use wherever you need to accurately monitor your oil consumption.

With an easy to read display which is precisely calibrated to measure within 1% accuracy, the GZO range is suitable for billing tenants and ensures cost effective heating during each seasons climate changes.

Available in a wide range of sizes covering fuel use between 0.5 – 6000 litre/hr.

A model is available for almost every application.

Suitable for both internal & external installations

Code	Description
GZ04	10mm Compression - 0.5 to 50 litre/hr (suitable for most domestic applications)
GZ04-RE0.1	10mm Compression - 0.5 to 50 litre/hr fitted with pulse output for remote metering
GZ08	1/4" BSP - 4 to 135 litre/hr (suitable for most domestic applications)
GZ015	3/4" BSP - 10 to 350 litre/hr

Utility Meters



- Water meters from 1/2" to 20" EEC approved for potable water Single-Jet, Multi-Jet, Rotary Piston, Woltmann Helix
- Gas meters: Diaphragm, Quantometer & Positive displacement models
- Energy meters: Mechanical, Ultrasonic & Electromagnetic models

Code	Description
	See data sheet

Fuel Tank Equipment

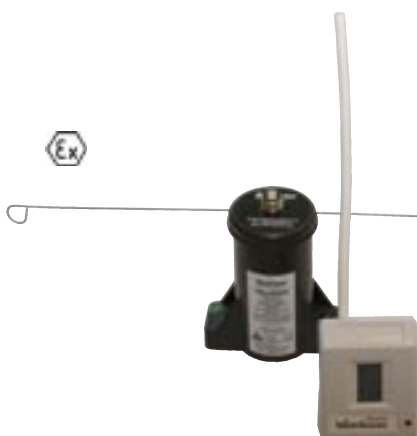
Level Master Tank Inventory Intelligence



- Enables bespoke tank inventory system build
- Monitor all tank levels either locally or remotely from a PC.
- Each Controller can monitor up to either 4 or 8 storage vessels
- Expansion Pack enables monitoring of up to 500 vessels
- Atex Versions available for hazardous area installation
- Suitable for tanks up to 5.4m in Depth (accurate to +/- 0.5%)
- Versatile Instrument can be used for most level monitoring applications, LCD indicates in various units (Kg, Litre, Gallons, %)

Code	Description
224 000 000	Level Master basic instrument (for up to 8 tanks)
224 000 200	Level Master instrument with PC connection & software
224 200 000	Level Master instrument with analogue modem
226 000 000	Level Master compact Instrument (for up to 4 tanks) with software
224 010 000	Standard probe for tanks (accurate to +/- 0.5%)
224 010 001	Atex certified probe for tanks (accurate to +/- 0.5%)
224 000 100	Expansion Pack

Oil Watchman - Atex Certified Remote Level Gauge



The Oil Watchman is the only Atex certified remote level gauge available for domestic applications.

The concept is very simple, a probe with transmitter is fitted to the storage tank which can then transfer the level information wirelessly to a remote receiver located in either the home or office.

The clear easy to read display indicates approximately the remaining volume of fuel in the tank. When the level reaches a critically low point a flashing red light on the receiver draws your attention to it.

The universal transmitter is suitable for tanks up to 3m in height and can transmit the level information & battery status up to 200m (1km version also available).

Each device has it's own unique transmission I.D to prevent it getting confused with similar units that maybe within the transmission range."

Code	Description
Watchman STD	Standard Oil Watchman gauge (includes probe, transmitter & plug in receiver)
Watchman BND	Watchman suitable for bunded tank applications (Includes probe, transmitter & plug in receiver)

Full Stop -ATEX certified over-fill Alarm (Battery Powered)



- Operates in conjunction with the Oil Watchman
- Deliver 10% more fuel in 3 out of 4 deliveries
- Audible and visual alarms
- Operates on any tank with an Oil Watchman fitted
- Over 400 Metres operational range
- Delivery driver warnings at 90% and 95% of tank capacity

The FullStop is activated by a simple, one-button action. It then indicates to the driver, visually and audibly, the fluid level inside the storage tank.

Code	Description
FS-OA	Full Stop. Over-fill Alarm, battery powered, Atex approved

NOZZLES & HOSES

FLOW METERS

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Fuel Transfer Intelligence

HEATING OIL EQUIPMENT

FUEL TANK EQUIPMENT

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ADBLUE EQUIPMENT

Fuel Tank Equipment

NOZZLES & HOSES

Oil Lines / Flexible Oil Hoses



- Heating oil compatible
- Protective overbraiding
- Available in a variety of diameters, lengths, and end fittings

Code	Description
	See data sheet for codes and sizes

FLOW METERS

Bowl Filter



- Heating oil compatible
- Aluminium construction
- 1/2" & 3/4" BSPF ports
- Tank/Filter packs available
- Cleanable mesh or replacement paper elements available

Code	Description
BOF3/8	Oil Filter 3/8" BSPF
BOF1/2	Oil Filter 1/2" BSPF

PUMPS

Fuel Transfer Intelligence

Micro Non-return valve



- Snap-in design polymer check valve
- NBR Seal
- Stainless Steel spring
- Max supply pressure 240psi (16 Bar)
- Low cracking pressure (0.14psi) will not starve system
- Can be supplied in a single check-valve body 1/2", 3/4", 1", 2"

Code	Description
IN-NR15	15mm Push fit design polymer check valve
IN-NR25	25mm Push fit design polymer check valve
IN-NR50	50mm Push fit design polymer check valve

HEATING OIL EQUIPMENT

FUEL TANK EQUIPMENT

Whistling Fill Alarm



- Displaced-air operated tank fill alarm
- Emits a high pitched whistling tone until the end of it's tube is covered by fuel during tank filling, thus signalling tank is full.
- Aluminium construction with PP Cap
- 2" BSPM tank thread

Code	Description
WFA001	Displaced-air fill alarm, 2" BSPM tank thread

FILTERS & FITTINGS

ADBLUE EQUIPMENT

Fuel Tank Equipment

Low Cost Tank Alarm



- Overfill, Bund and Combined versions available
- Battery or 230V AC powered
- Float switch is fitted to the tank via either a 20mm hole flange plate or 1" bush.
- Audible and LED warning on float switch activation
- Volt free contact available for remote switching on request
- Wall mount ABS case IP20 & IP65 versions
- 5m cable

Code	Description
TA001	Tank Alarm, Battery or 230V AC Powered IP20
TA001-20	Tank Alarm, Battery or 230V AC Powered IP65
TBA001	Tank & Bund Alarm, Battery or 230V AC Powered IP20
TBA001-20	Tank & Bund Alarm, Battery or 230V AC Powered IP65

Oil Fill Point Cabinet c/w captive cap & chain to BS799



- Lockable wall mount cabinet
- Conforms with Metric brickwork
- Vandal proof polycarbonate window (optional)
- Single, double and triple fill valve versions
- 25mm, 50mm, 65mm, 80mm, 100mm fill valve options
- Supporting gas strut keeps door at open position
- Options include: Internal lighting, contents gauge, level alarm etc

Code	Description
See Data sheet	

Remote Tank Gauge



- Hydrostatic Contents Gauge
- To show contents, pull plunger and release
- Simple on-site calibration
- Suitable for most fuels, oils & water
- Remote measuring up to 50 metres.
- Suitable for outdoor installation
- 1" BSPM tank fitting

Code	Description
TVM3	Cylindrical tanks up to 3m, c/w 50m polyethylene tube
TVM3/R	Rectangular tanks up to 3m, c/w 50m polyethylene tube

NOZZLES
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FLOW
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EQUIPMENT

Filters & Fittings

NOZZLES & HOSES

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FILTERS & FITTINGS

ADBLUE EQUIPMENT

Foot Valves, Strainers & Filters



- Foot Valves, NRV's & Y-Strainers available in brass and St/steel
- In-line fuel particle only, filters- cast iron or alloy heads available
- Diesel filters available with combined water removal elements
- Aviation filters available with combined water removal elements

Code **Description**
See data sheet

Bowl Filter



- Heating oil compatible
- Aluminium construction
- 1/2" & 3/4" BSPF ports
- Tank/Filter packs available
- Cleanable mesh or replacable paper elements available

Code **Description**
BOF3/8 Oil Filter 3/8" BSPF
BOF1/2 Oil Filter 1/2" BSPF

Hose Swivels, Breakaway Couplings and Adapters



- Swivel fittings reduce hose wear & kinking- various sizes available
- Hose break safety couplings available for petrol & diesel
- A wide range of adapters, couplings and fittings are available in M.I, G.I, Brass, Stainless steel and various other materials

Code **Description**
See data sheet

Quick Release & Static Hose End Fittings



- Available in Stainless Steel, Brass, Aluminium & Polypropylene
- Sizes from 1/8" to 4"
- Alternative seal compounds available on request
- Available Screwed BSP & NPT
- Flanged variants also available

Code **Description**
A25/AL Aluminium type "A" Spigot - 1" BSP(F)
B25/AL Aluminium type "B" Cam - 1" BSPT
C25/SS Stainless 316 type "C" Cam - 25mm ID Hosetail
F25/SS Stainless 316 type "F" Spigot - 1" BSPT
D50/AL Aluminium type "B" Cam - 2" BSP(F)
E15/BR Brass type "E" Spigot - 12mm ID Hosetail
HT25/B1 1" BSPT Brass Hosetail to suit 25mm ID Hose
HT25/N1 1" NPT Brass Hosetail to suit 25mm ID Hose
HT19/S1 1" BSPT Stainless 316 Hosetail to suit 19mm ID Hose

Electric Pump - Hornet H60 Adblue Pump



- The Patented design is suitable for use with Adblue, the Urea based NOx emissions reducing additive for diesel vehicles.
- Capacity 40 l/min 230V AC
- Self priming
- Stainless steel wetted parts with HD-NBR rotor, ABS casing
- Drum thread 2" BSPM
- Supplied with EPDM suction hose & filter, 4m delivery hose & Adblue nozzle
- Also available as pump only

Code	Description
399 000 403	Hornet H60 Adblue Pump 1" Inlet, 2" Drum Fitting, 230V AC

Electric Pump - Hornet H80 Adblue Pump



- Patented design is suitable for use with Adblue, the Urea based NOx emissions reducing additive for diesel vehicles.
- Capacity Approx 70 l/min 230V AC
- Pulley driven design
- Stainless steel & synthetic wetted parts

Code	Description
399 000 IDK	Hornet H80 Adblue Pump ,Pulley Driven, 230V AC

FMT Adblue Flow Meter



- In-Line Turbine design with integral LCD
- Suitable for use with Adblue
- 5 -120 Ltrs/min (4 models cover this range)
- Accuracy: +/- 1%. (field calibration adjustment)
- Max. pressure 29 psi (2 Bar)
- Niro body / POM turbine 1" BSPM ports
- Lithium Battery- Estimated battery life: 2 Years
- 4 Digit Resettable Total / 6 Digit Non Resettable Total

Code	Description
FMT40H	Electronic Adblue Flow Meter 1" BSP 5-45 litre/min
FMT50H	Electronic Adblue Flow Meter 1" BSP 10-55 litre/min
FMT80H	Electronic Adblue Flow Meter 1" BSP 20-85 litre/min
FMT120H	Electronic Adblue Flow Meter 1" BSP 20-120 litre/min

NOZZLES
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FLOW
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FUEL TRANSFER
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HEATING OIL
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ADBLUE
EQUIPMENT

AdBlue IBC - Compact Pump System



- Pump kit fitted on to IBC assembly bridge
- Based around patented Hornet W60 Adblue pump.
- Run-dry protection
- Compact design- rapid container change
- Integrated FMT Adblue flow meter
- Kit is supplied with, IBC adapter nozzle, delivery hose & nozzle

Code	Description
AB-IBC	AdBlue IBC Kit - 230V AC Compact Pump System

Metrobulk - Complete Adblue Filling Station



- Steel Skin over rigid frame
- Tank volume: 1000(IBC), 2500 & 5000 litre versions
- Central, lockable access door and Interior lighting
- Auto climate adjusting (heated in winter, cooled in summer)
- Dispensing unit options (Integral or remote pedestal)
- Adblue transfer technology options including: user I.D access, integrated printer, usage logging, GSM modem telemetry.

Code	Description
	Details on request

Adblue Dispensing Stand



- Stainless Steel Pedestal
- Incorporating patented Hornet W80 Adblue Pump
- Flow rate approx. 60 l/min
- Integrated multifunctional LCD Display
- 4 metre delivery hose with Adblue nozzle with integrated storage
- Auto climate adjusting (heated in winter, cooled in summer)
- Adblue transfer technology options including: user I.D access via transponder technology, usage logging with software evaluation.

Code	Description
	Details on request

CONVERSION TABLES

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from www.bellflowsystems.com

LENGTH

Multiply to get	→	to get
to get	←	Divide
inch	2.54	cm
ft	12	inch
ft	0.305	meter
yard	1.094	meter
Angstrom	1010	meter
mm	0.0393	inch

FLOWRATE

Multiply to get	→	to get
to get	←	Divide
cc/min	1	mL/min
cfm (ft ³ /min)	28.32	L/min
cfm (ft ³ /min)	1.699	m ³ /hr
cfm (ft ³ /min)	7.481	gal/min (US)
cfm (ft ³ /min)	6.228	gal/min (Imp)
cfh (ft ³ /hr)	472	mL/min
cfh (ft ³ /hr)	0.103	gal/min (IMP)
gal/hr (US)	63.1	mL/min
gal/hr (US)	0.134	cfh
gal/min (US)	0.227	m ³ /hr
gal/min (US)	3.785	L/min
gal/min (US)	0.832	gal/min (Imp)
gal/hr (Imp)	75.768	mL/min
gal/min (Imp)	0.272	m ³ /hr
gal/min (Imp)	4.546	L/min

VOLUME

Multiply to get	→	to get
to get	←	Divide
gallons (US)	128	fluid ounces
gallons (US)	3.785	litres
litres	1000	cc's
lb water	0.119	gallons
gallons (Imp)	1.2	gallons (U.S.)
cubic ft	7.48	gallons
cubic in.	0.00433	gallons
cubic cm	0.0338	fluid ounces
cubic meters	264.2	gallons (US)
cubic meters	1000	litres

PRESSURE/VACUUM

Multiply to get	→	to get
to get	←	Divide
atm	33.9	ft H ₂ O
atm	760	mm Hg
atm	1033.2	g/cm ²
atm	14.696	psi
atm	1.013	bar
atm	101.3	kPa
bar	14.50	psi
bar	401.47	" of H ₂ O
bar	29.53	" of Hg
bar	100.0	kPa
bar	1000	mbar
bar	1019.73	cm of H ₂ O
bar	750.06	mm of Hg
cm of H ₂ O	0.014223	psi
cm of H ₂ O	0.3937	" of H ₂ O
cm of H ₂ O	0.028958	" of Hg
cm of H ₂ O	0.09806	kPa
cm of H ₂ O	0.9806	mbar
cm of H ₂ O	0.7355	mm of Hg
" of H ₂ O	0.036127	psi
" of H ₂ O	0.073554	" of Hg
" of H ₂ O	0.2491	kPa
" of H ₂ O	2.491	mbar
" of H ₂ O	2.5400	cm of H ₂ O
" of H ₂ O	1.8683	mm of Hg
" of Hg	0.4912	psi
" of Hg	13.596	" of H ₂ O
" of Hg	3.3864	kPa
" of Hg	33.864	mbar
" of Hg	34.532	cm of H ₂ O
" of Hg	25.400	mm of Hg
kg/cm ²	14.223	psi
kg/cm ²	393.7	" of H ₂ O
kg/cm ²	28.96	" of Hg
kg/cm ²	98.06	kPa
kg/cm ²	980.6	mbar
kg/cm ²	1000	cm of H ₂ O
kg/cm ²	735.5	mm of Hg
kPa	0.14504	psi
kPa	4.0147	" of H ₂ O
kPa	0.2953	" of Hg
kPa	10.000	mbar
kPa	10.1973	cm of H ₂ O
kPa	7.5006	mm of Hg

PRESSURE/VACUUM

Multiply to get	→	to get
to get	←	Divide
mbar	0.01450	psi
mbar	0.40147	" of H ₂ O
mbar	0.02953	" of Hg
mbar	0.100	kPa
mbar	1.01973	cm of H ₂ O
mbar	0.75006	mm of Hg
micron (μ)	0.00019337	psi
micron (μ)	0.0053525	" of H ₂ O
micron (μ)	0.00039370	" of Hg
micron (μ)	0.0013332	kPa
micron (μ)	0.013332	mbar
micron (μ)	0.013595	cm of H ₂ O
micron (μ)	0.001	mm Hg
mm of Hg	0.019337	psi
mm of Hg	0.53525	" of H ₂ O
mm of Hg	0.039370	" of Hg
mm of Hg	0.13332	kPa
mm of Hg	1.3332	mbar
mm of Hg	1.3595	cm of H ₂ O
oz/inch ²	0.06250	psi
oz/inch ²	1.7299	" of H ₂ O
oz/inch ²	0.1272	" of Hg
oz/inch ²	0.4309	kPa
oz/inch ²	4.309	mbar
oz/inch ²	4.394	cm of H ₂ O
oz/inch ²	3.232	mm of Hg
psi	27.680	" of H ₂ O
psi	2.036	" of Hg
psi	6.8947	kPa
psi	68.947	mbar
psi	0.0689	bar
psi	70.308	cm of H ₂ O
psi	0.06804	atm
psi	51.715	mm of Hg
torr	0.019337	psi
torr	0.53525	" of H ₂ O
torr	0.039370	" of Hg
torr	0.13332	kPa
torr	1.3332	mbar
torr	1.3595	cm of H ₂ O
torr	1.000	mm Hg

All of the information on these pages should be checked against other sources for accuracy in critical calculations. Most conversions are accurate to only a few significant figures

Useful Tables

CONVERSION TABLES (cont'd)

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Velocity

Multiply	→	to get
to get	←	Divide
Feet per Second	0.3048	Metres per Second
Feet per Second	1.09728	Kilometres per Hour
Feet per Second	0.6818	Miles per Hour
Metre per Second	3.281	Feet per Second
Metre per Second	3.600	Kilometres per Hour
Metre per Second	2.237	Miles per Hour
Kilometre per Hour	0.9111	Feet per Second
Kilometre per Hour	0.2777	Metres per Second
Kilometre per Hour	0.6214	Miles per Hour
Mile per Hour	1.467	Feet per Second
Mile per Hour	0.4471	Metres per Second
Mile per Hour	1.609	Kilometres per Hour

Miscellaneous

Multiply	→	to get
to get	←	Divide
hp	0.746	kW
hp	42.44	Btu/min
hp	396,000	lb in/min
hp	1.014	metric hp
watts	0.7376	lb ft/sec
watts	44.25 lb	ft/min
lb-ft	0.1368	kg-m
oz-in	0.072	kg-cm
oz-in	70,600	dyne-cm
oz-in	0.00706	Nm
gauss	0.0001	tesla

Comparative Particle Size

U. S. mesh	Inches	Microns	U. S. mesh	Inches	Microns
3	0.265	6730	40	0.0165	420
3-1/2	0.223	5660	45	0.0138	354
4	0.187	4760	50	0.0117	297
5	0.157	4000	60	0.0098	250
6	0.132	3360	70	0.0083	210
7	0.111	2830	80	0.0070	177
8	0.937	2380	100	0.0059	149
10	0.787	2000	120	0.0049	125
12	0.0661	1680	140	0.0041	105
14	0.0555	1410	170	0.0035	88
16	0.0469	1190	200	0.0029	74
18	0.0394	1000	230	0.0024	63
20	0.0331	841	270	0.0021	53
25	0.0280	707	325	0.0017	44
30	0.0232	595	400	0.0015	37
35	0.0197	500	—	—	—

Volts

$$\text{Volts} = \sqrt{\text{Watts} \times \text{Ohms}} = \frac{\text{Watts}}{\text{Amperes}} = \text{Amperes} \times \text{Ohms}$$

Amperes

$$\text{Amperes} = \frac{\text{Volts}}{\text{Ohms}} = \frac{\text{Watts}}{\text{Volts}} = \sqrt{\frac{\text{Watts}}{\text{Ohms}}}$$

Ohms

$$\text{Ohms} = \frac{\text{Volts}}{\text{Amperes}} = \frac{\text{Volts}^2}{\text{Watts}} = \frac{\text{Watt}^2}{\text{Amperes}}$$

Watts

$$\text{Watts} = \text{Volts} \times \text{Amperes} = \text{Amperes}^2 \times \text{Ohms} = \frac{\text{Volts}^2}{\text{Ohms}}$$

Volt : (E) is the unit of electric pressure or electromotive force. It is the potential that will produce a current of 1 ampere through a resistance of 1 ohm.

Ampere : (I) is the unit of electrical current (coulombs per second).

Ohm : (R) is the unit of electrical resistance (volts/ampere).

Watts : (W) and kilowatts (KW) are units of electric power.

Temperature Conversion Equations

$$^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32$$

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times 0.555$$

$$\text{Kelvin} = ^{\circ}\text{C} + 273.2$$

$$^{\circ}\text{Rankin} = ^{\circ}\text{F} + 459.67$$

Calculation of Volumetric Flow to Mean Velocity

Definition: The mean velocity is that velocity which directly relates to the volumetric flow rate.

$$\text{US Mean Velocity fps} = \frac{0.408 \times \text{gpm(US)}}{(\text{internal } \varnothing \text{ inches})^2}$$

$$\text{Metric Mean Velocity m/s} = \frac{354 \times \text{m}^3/\text{h}}{(\text{internal } \varnothing \text{ mm})^2}$$

All of the information on these pages should be checked against other sources for accuracy in critical calculations. Most conversions are accurate to only a few significant figures



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