

# **HYDRAQUIP**

**METAL & PTFE HOSE ENGINEERING**



[www.hydraquip.co.uk](http://www.hydraquip.co.uk)

## THE METAL HOSE RANGE

**HYDRAQUIP** specialise in the manufacture of metal hose solutions for the distribution and transfer of liquids and gases across a number of industries in the UK and overseas. The core strengths behind our business are quite simple but very instrumental in achieving the levels of growth and expansion seen since the formation of this division of Hydraquip. This includes a very experienced team and to only offer products that are quality driven. An in depth knowledge of industry sectors and close working relationships with our customers give the reassurance that the solution we offer will be the hose assembly you have been searching for and is backed up by the leading presence we have in a number of industrial areas.



In house capabilities include technical support, CAD design, bespoke testing and specialised welding with other areas added as customer requirements demand. To ensure orders can be processed quickly and smoothly whether in a breakdown situation or for a scheduled order, extensive stocks of hose and fittings from DN06 (¼") up to DN200 (8") are held with levels regularly adjusted to meet current and future demand with larger sizes available on request. Alongside the stock fittings we have the ability to design and manufacture bespoke fittings and connections for specific applications.

# APPLICATIONS AND INDUSTRIES

## BESPOKE

With an infinite combination of applications, hoses and fittings it is crucial that the hose assembly you choose is fit for purpose and any advice you get is accurate. The technical team at the Metal Hose Engineering Division have a depth of knowledge built up over many years in the industry along with the experience they have gained in supplying specific sectors. Backed by in-house design for custom manufactured parts the team provide hose solutions for many applications and can create a strong partnership rather than just another supplier.



## GAS HOSES

Certified to the latest ISO 10380:2003 standard and typically used for Caravan Gas Connectors, Gas Meter Connectors and Spools. Along with Annealed Connectors, Gas Radiant Heaters and BS669 Part 2 : 1997 Catering Hoses. For BS6173 : 2009 installations we recommended the Caterquip Gas Hose.



## BUILDING SERVICE CONNECTIONS

Suitable for the connection of fan coils and other H&V units, the metallic hose is a solution that offers excellent resistance, flexibility and a long life span. In typical H&V applications these hoses can provide a working life expectancy of up to 25 years, meaning a 'fit and forget' solution for the contractor and site management.



## PETRO CHEMICAL

Multiple applications for braided and unbraided connections include improved installation, misalignment correction and vibration elimination. Typically used for Forecourt Dispenser Connections, Riser Pipes, Pumping Units and as Pressure/Suction Lines on forecourts. OEM's can benefit from a knowledgeable design team with years of industry experience.



## VACUUM AND ULTRA HIGH VACUUM APPLICATIONS

This industry requires quality and cleanliness making 316L Stainless Steel assemblies ideal for this application due to their material and ability to withstand a vacuum without collapse. All KF/CF/ISO fittings are available. Hoses are individually tested using a helium mass spectrometer leak detector to sensitivity better than  $1 \times 10^{-9}$  mbar l/sec.



## INDUSTRIAL SOLUTIONS

The materials and general construction of a metallic hose assembly make it a suitable means of connection in a number of areas where either the medium or environment it is working in may be of an aggressive nature. Stocks of hose from DN06 to DN200 and a selection of fittings to ensure the exact requirements are met.



## CATERQUIP

A fully welded corrugated stainless steel hose assembly manufactured to meet the requirements of gas supply for catering appliances using 1st, 2nd & 3rd family gases. Fully tested and certified by BSI to BS669 Pt 2 : 1997. Caterquip hoses are supplied with a quick release valved coupler and restraining kit, with stocked sizes available off the shelf.

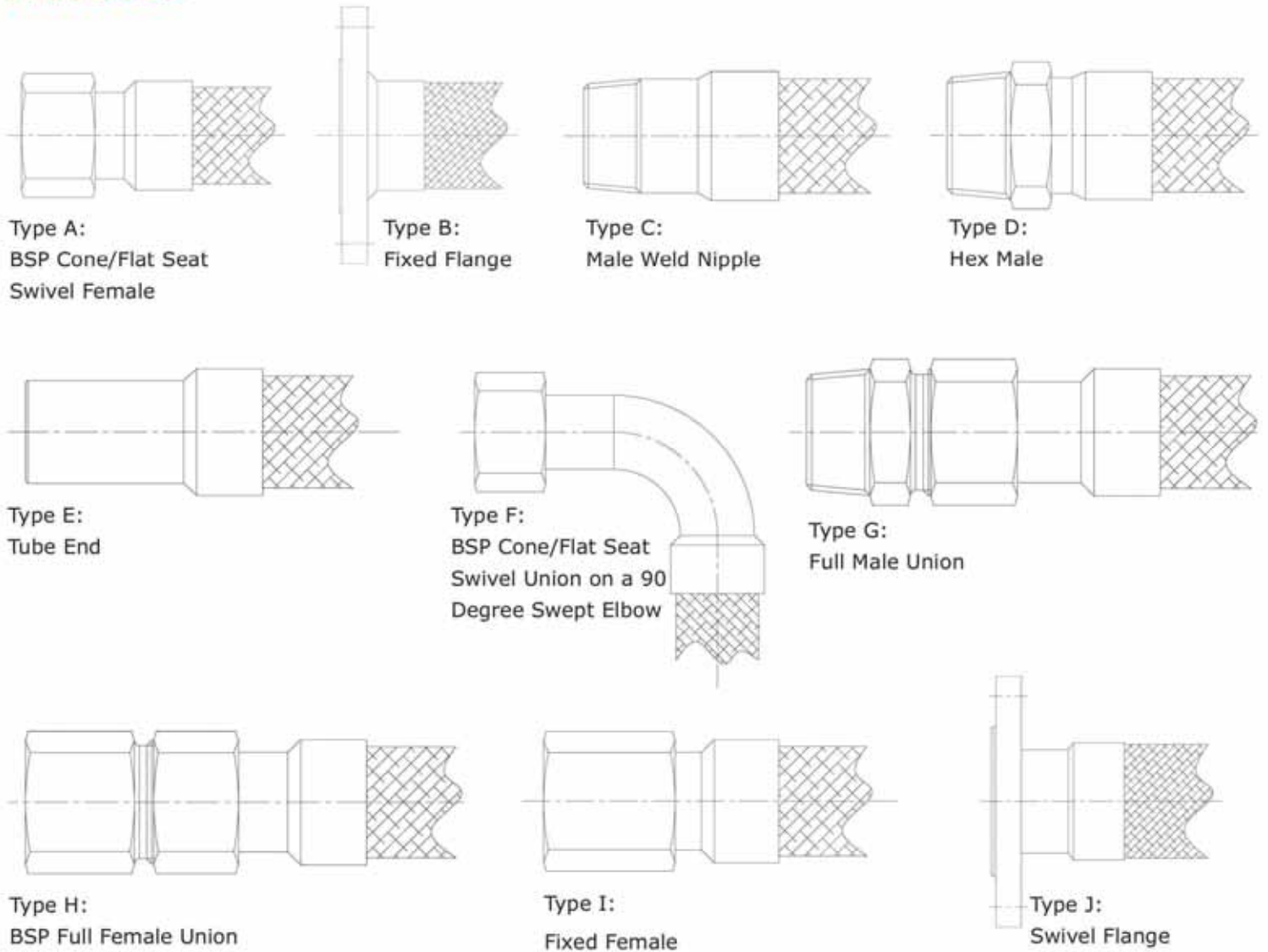


## SOLARQUIP

A high quality twin Solar Pipe System in Stainless Steel 316L flexible pipe to ISO 10380, protected with a high temperature close cell EPDM pipe insulation covered with durable PE cover to protect against UV light and damage when pulled through cavities. Used on the connection of solar panels to HW cylinder and pumping station.

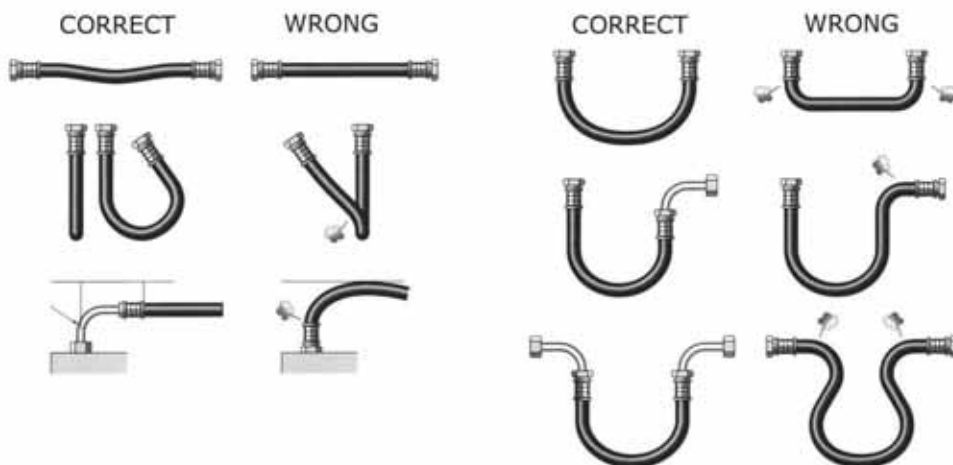


**FITTINGS**

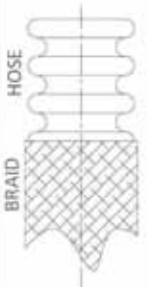


**INSTALLATION GUIDE**

Preferred geometry.




# HOSE TYPE



**Type 100 - Standard Pitch**

Nominal Diameter	Internal Diameter I/D (mm)	Braids	Outside Diameter O/D (mm)	Tolerance +/- (mm)	Minimum Bend radius Static	Minimum Bend radius Dynamic (mm)	Maximum Safe Working Pressure (Bar)	Maximum Test Pressure (Bar)	Minimum Burst Pressure (Bar)
1/4"	6.1	0	9.6	0.2	15	60	18	27	72
		1	10.7		25		150	225	600
3/8"	10.05	0	14.3		18	130	9	13.5	36
		1	15.5		38		100	150	400
1/2"	12.25	0	16.8		20	140	7	10.5	28
		1	18.3		45		70	105	280
5/8"	16.2	0	21.5		28	160	5	7.5	20
		1	23.8		58		64	96	256
3/4"	20.3	0	26.8		32	170	3	4.5	12
		1	28.6		70		43	64.5	172
1"	25.4	0	32.3		40	190	2.5	3.75	10
		1	34.3		85		49	73.5	196
1 1/4"	34.3	0	41.1	50	260	2	3	8	
		1	43	105		35	52.5	140	
1 1/2"	40	0	49.5	60	300	2	3	8	
		1	52	130		38	57	152	
2"	50.2	0	60.5	70	320	1	1.5	4	
		1	62.4	160		26	39	104	
2 1/2"	65.3	0	78	115	460	0.5	0.75	2	
		1	81.2	200		25	37.5	100	
3"	80.2	0	94.8	130	660	0.5	0.75	2	
		1	98	240		16	24	64	
4"	100	0	116.2	160	750	0.5	0.75	2	
		1	119.4	290		10	15	40	
5"	125.4	0	150	280	700	0.6	0.9	2.4	
		1	154.1	340		12	18	48	
6"	150.8	0	175	320	850	0.5	0.75	2	
		1	179.3	370		10	15	40	



**Type 300 - Close Pitch**

Nominal Diameter	Internal Diameter I/D (mm)	Braids	Outside Diameter O/D (mm)	Tolerance +/- (mm)	Minimum Bend radius Static	Minimum Bend radius Dynamic (mm)	Maximum Safe Working Pressure (Bar)	Maximum Test Pressure (Bar)	Minimum Burst Pressure (Bar)
1/4"	6.2	0	9.8	0.2	20	70	12	18	48
		1	10.9		20		114	171	456
3/8"	10.2	0	14.5		30	100	5	7.5	20
		1	15.9		30		97	145.5	388
1/2"	12.2	0	16.9		35	110	4	6	16
		1	18.3		35		63	94.5	252
5/8"	16.3	0	22.1		40	115	5	7.5	20
		1	23.7		40		60	90	240
3/4"	20.4	0	27.1		50	125	2.5	3.75	10
		1	28.6		50		38	57	152
1"	25.4	0	32.4		60	145	2	3	8
		1	34.6		60		48	72	192
1 1/4"	34.1	0	41.1	70	225	1.5	2.25	6	
		1	43.3	70		35	52.5	140	
1 1/2"	40.1	0	49.9	80	240	1	1.5	4	
		1	52.3	80		33	49.5	132	
2"	50.2	0	60.5	100	250	1	1.5	4	
		1	62.8	100		26	39	104	
2 1/2"	65	0	78.2	145	280	0.5	0.75	2	
		1	81.4	200		16	24	64	
3"	80	0	95	200	400	0.5	0.75	2	
		1	98.2	240		10	15	40	
4"	99.4	0	116.8	240	500	0.5	0.75	2	
		1	120	290		6	9	24	
5"	125.4	0	150	280	660	0.6	0.9	2.4	
		1	154.1	330		12	18	48	
6"	150.8	0	175	320	815	0.5	0.75	2	
		1	179.3	350		10	15	40	

ACCREDITATION AND APPROVALS INCLUDE: WRAS ISO9001-2008 ISO10380:2003 BS699 PART 2:1997





## **PTFE RANGE**

### **WHAT IS TEFLON®PTFE**

- Teflon®, or Polytetrafluoroethylene (PTFE), to give it its full chemical name, was discovered in 1938 by DuPont scientist Dr. Roy Plunkett.
- Teflon®/PTFE is a plastic resin in the Fluorocarbon group.
- Teflon®/PTFE is an ideal problem solver for fluid transfer applications involving aggressive chemicals, extremes of temperature/movement or where hygiene is paramount.

### **KEY PROPERTIES**

- A wide operating temperature range (-60°C to +260°C / -100°F to +500°F).
- Inert to virtually all chemicals.
- Resistance to weathering/ageing: unaffected by UV light, resistant to oxidation, surface fouling and discolouration.
- Non-flammable.
- Lightweight.
- Superior fatigue flex.
- Low permeability.
- Lowest coefficient of friction of any solid material known to man.
- Unlimited shelf life.
- Preformable.

### **CHEMICAL RESISTANCE**

The PTFE Hose liner is virtually inert to all chemicals and solvents. It is resistant to fuming Sulphuric and Nitric acids, Amines, Antioxides and Methanol. It is only Known to react with elemental Alkali metals (molten or in solution), Fluorine and Chlorine Trifluoride.

### **SMOOTH BORE HOSE**

- Metric range for use with European hydraulic fittings.
- Customer-specific products may be discussed with our Sales Team, subject to volume.

The PTFE hose bore is manufactured from Teflon/PTFE. No pigments or additives are incorporated. The wire braiding (1 or 2 wire available) is produced from AISI 304/S15 or BS970-1 1996 quality hard drawn tensile stainless steel wire. Anti-static (carbon) versions of all hoses are available for electrically resistive fluids which are being transferred at high rates.

### **CONVOLUTED HOSE**

Originally designed for easy assembly by re-sellers looking to extend their product portfolio. The convoluted bore has a 'true' I/D and eliminated the need to de-convolute the hose when using standard hydraulic inserts. A range of ferrules to suit this product is available assembly form from our Assembly Division. Anti-static (carbon) versions of all hoses are available for where electrically resistive fluids which are being transferred at high flow rates.

SMOOTH BORE METRIC PTFE RANGE	Description	Tube Wall Thickness		Braided OD Nominal		Tolerance +/-		Braided ID Nominal		Tolerance +/-		Max Working Pressure		Min Burst Pressure		Min Bend Radius	
		(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(psi)	(bar)	(psi)	(bar)	(mm)	(in)
	4.9mm STD	0.89	0.035	7.87	0.31	0.6	0.024	4.89	0.193	0.4	0.16	4,000	276	12,000	827	51	2.008
5.1mm STD	0.89	0.035	8.05	0.317	0.6	0.024	5.1	0.201	0.4	0.016	3,830	264	11,500	793	64	2.520	
6.7mm STD	0.76	0.03	9.35	0.368	0.6	0.024	6.7	0.264	0.4	0.016	3,250	224	9,750	672	76	2.992	
8.0mm STD	0.89	0.035	11.3	0.445	0.6	0.024	8	0.315	0.4	0.016	3,160	218	9,500	655	102	4.016	
8.4mm STD	0.64	0.025	11.05	0.435	0.6	0.024	8.4	0.331	0.4	0.016	3,000	207	9,000	621	102	4.016	
10.0mm STD	0.64	0.025	12.65	0.498	0.6	0.024	10	0.394	0.4	0.016	2,660	183	8,000	552	127	5.000	
10.3mm STD	0.89	0.035	13.44	0.529	0.6	0.024	10.3	0.406	0.4	0.016	2,660	183	8,000	552	133	5.236	
13.2mm STD	0.89	0.035	16.55	0.652	0.75	0.03	13.2	0.52	0.5	0.02	2,330	161	7,000	483	152	5.984	
13.6mm STD	0.89	0.035	17.15	0.675	0.75	0.03	13.6	0.535	0.5	0.02	2,330	161	7,000	483	150	5.906	
16.6mm STD	0.89	0.035	19.75	0.778	0.75	0.03	16.6	0.654	0.5	0.02	1,660	114	5,000	345	178	7.008	
19.8mm STD	0.89	0.035	22.96	0.904	0.85	0.033	19.8	0.78	0.6	0.024	1,500	103	4,500	310	203	7.992	
22.1mm STD	0.89	0.035	25.27	0.995	0.85	0.033	22.1	0.87	0.6	0.024	1,330	92	4,000	276	229	9.016	
26.1mm STD	0.89	0.035	29.25	1.152	0.85	0.033	26.1	1.028	0.6	0.024	1,160	80	3,500	241	305	12.008	

STANDARD CONVOLUTED PTFE RANGE	Description	Tube Wall Thickness		Braided OD Nominal		Tolerance +/-		Braided ID Nominal		Tolerance +/-		Max Working Pressure		Min Burst Pressure		Min Bend Radius	
		(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(psi)	(bar)	(psi)	(bar)	(mm)	(in)
	1/4" EASYFLEX	0.76	0.03	12.3	0.484	0.5	0.02	7.1	0.28	0.5	0.02	2500	172	7,500	517	18	0.709
3/8" EASYFLEX	0.76	0.03	15.25	0.6	0.6	0.024	9.5	0.374	0.6	0.024	2000	138	6,000	414	20	0.787	
1/2" EASYFLEX	0.89	0.035	18.8	0.74	0.6	0.024	12.83	0.505	0.6	0.024	1500	103	4,500	310	25	0.984	
5/8" EASYFLEX	0.89	0.035	22.1	0.87	0.6	0.024	15.88	0.625	0.6	0.024	1200	83	3,600	248	51	2.008	
3/4" EASYFLEX	0.89	0.035	24.65	0.97	0.7	0.028	19.05	0.75	0.7	0.028	1000	69	3,000	207	64	2.52	
7/8" EASYFLEX	0.89	0.035	28.7	1.13	0.8	0.031	22.35	0.88	0.8	0.031	830	57	2,500	172	76	2.992	
1" EASYFLEX	1.02	0.04	32.77	1.29	0.8	0.031	25.4	1	0.8	0.031	667	46	2,000	138	89	3.504	
1 1/4" EASYFLEX	1.02	0.04	40.72	1.603	0.8	0.031	32.2	1.268	0.8	0.031	500	34	1,500	103	127	5.000	
1 1/2" EASYFLEX	1.12	0.044	48.25	1.9	0.8	0.031	38.1	1.5	0.8	0.031	435	30	1,305	90	152	5.984	
2" EASYFLEX	1.2	0.047	61.5	2.421	0.8	0.031	51.4	2.064	0.8	0.031	333	23	1,000	69	200	7.874	

## ADDITIONAL PTFE SOLUTIONS

The resistance and performance capability of PTFE hose makes it the perfect solution for many applications but there are still areas where factors and conditions mean that the standard hoses are not suitable and a bespoke version is required and are covered by the availability of a number of versions as detailed below.

### STATIC APPLICATIONS

To prevent the build up of static, especially on longer lengths and where high velocities are involved, and the potential damage it can cause to a hose an anti static version is available on request.

### TAPE WRAPPED PTFE

Combining extreme flexibility of application, corrosion resistance, long term durability and chemical inertness, this hose can be used in many diverse applications including chemical transfers, food handling, processing applications from pure water to hazardous waste.

### CONVO-FLEX

The manufacturing process of this hose is in such a way that it is helically convoluted and therefore is self draining offering ease of cleaning, good flexibility and vacuum resistance. A heavier version of it's Easy-Flex cousin is suited for more arduous applications and is available in a number of versions.

### AUTOMOTIVE

Developed to provide ultra low volumetric expansion for critical safety applications such as clutch and brake. Other automotive hoses are available in sizes from 2mm - 25mm that are compatible with all standard automotive fluids.



This list is just a small representation of what is available with further variations available on request.



## **HOSE AND HYDRAULIC BRANCHES**

### **ADISHAM**

Station Approach  
Adisham, Canterbury, CT3 3JE  
t: 01304 840 650 f: 01304 840 675  
e: [adisham@hydraquip.co.uk](mailto:adisham@hydraquip.co.uk)

### **BLAYDON**

2 Cowen Road, Blaydon  
Tyne & Wear NE21 5TW  
t: 0191 414 2491 f: 0191 414 3317  
e: [blaydon@hydraquip.co.uk](mailto:blaydon@hydraquip.co.uk)

### **CRAWLEY**

Unit 2, Raleigh Court, Priestley Way  
Crawley, West Sussex RH10 9PD  
t: 01293 615 166 f: 01293 614 965  
e: [crawley@hydraquip.co.uk](mailto:crawley@hydraquip.co.uk)

### **GRIMSBY**

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Trading Estate, Stallingborough DN41 8DY  
t: 01469 578 515 f: 01469 578 267  
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### **NORTH KENT**

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Gas House Road, Rochester, Kent ME1 1PB  
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