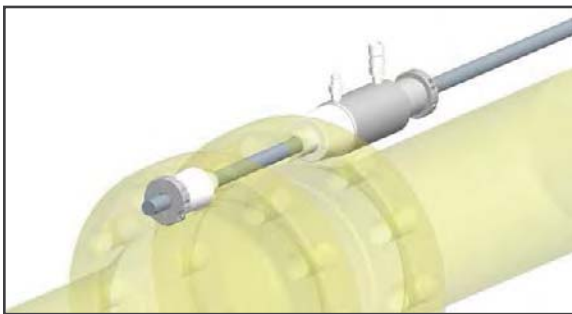
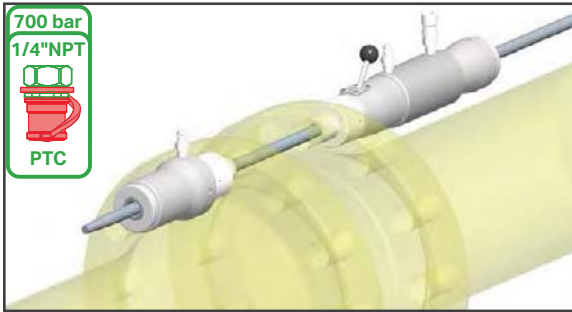


## FLANGE PULLERS

SUBSEA - SFP

700 bar/10,000 psi



## WIRE ROPE FLANGE PULLING SYSTEM

- Compact design
- Long Piston Stroke - 102mm (4")
- Self activating collet design
- Auto grab Anchor Collet with hydraulic release
- Manually releasable Retract Collet prevents lock on
- High strength, low rotation wire rope
- Anti-Slip surfaces
- Operated via separate diver control valve providing precise control for up to 4 pullers

## THREADED BAR FLANGE PULLING SYSTEM

- Compact design
- Long Piston Stroke - 102mm (4")
- 700 bar (10,000 psi) systems
- Rapid assembly using Quick Release Reaction Nuts
- High strength threaded bar
- Anti-Slip surfaces
- Operated via separate diver control valve providing precise control for up to 4 pullers

### FEATURES

#### Compact Design

Designed to fit ANSI B16.5, MSS SP44, API 6A and most other flange applications dedicated flange hole adaptors.

#### Hydraulic Anchor Collet Release

Anchor collet automatically grips wire rope (without hydraulic pressure). Collets can be fully released by applying hydraulic pressure.

#### Auto Advance Collet Release

Advance collet fully disengages when the pulling cylinder is fully retracted

#### Manual Retract Collet Release

Retract collet can be manually disengaged, allowing the pulling cylinder (including Advance and Retrace collets) to be removed from the wire rope while the rope is installed in the flanges. Also allows the pulling system to be removed when pipe spring is evident (pipe spring makes the Anchor collet difficult to release).

#### Low Rotation Wire Rope

Special high load, 19mm and 22mm low rotation, steel wire rope ensure effective collet grip and reduces bird caging effects and strand unwinding.

#### Remote Diver Control Valve

Pulling Cylinders are controlled via a separate Valve Control Console allowing the diver to control the pullers remote from the work site. This eliminates bulky cylinder mounted control valves and negates constant diver intervention between pullers when advancing and retracting the cylinders.

#### Drawbar System Conversion with Quick Release Nuts

Pulling Cylinders can be simply converted to use a 1-1/8" threaded drawbar instead of wire ropes. The system utilizes Quick Release Reaction nuts for speed and versatility.

#### Flexible Design

Two or more cylinders can be linked together to cater for larger flange sizes/loads.

## Specifications and Dimensional Data

**Max capacity of cylinder:** 20.0 tonf (199.3 kN)

**Max operating pressure of cylinder:** 10,000 psi (700 bar)

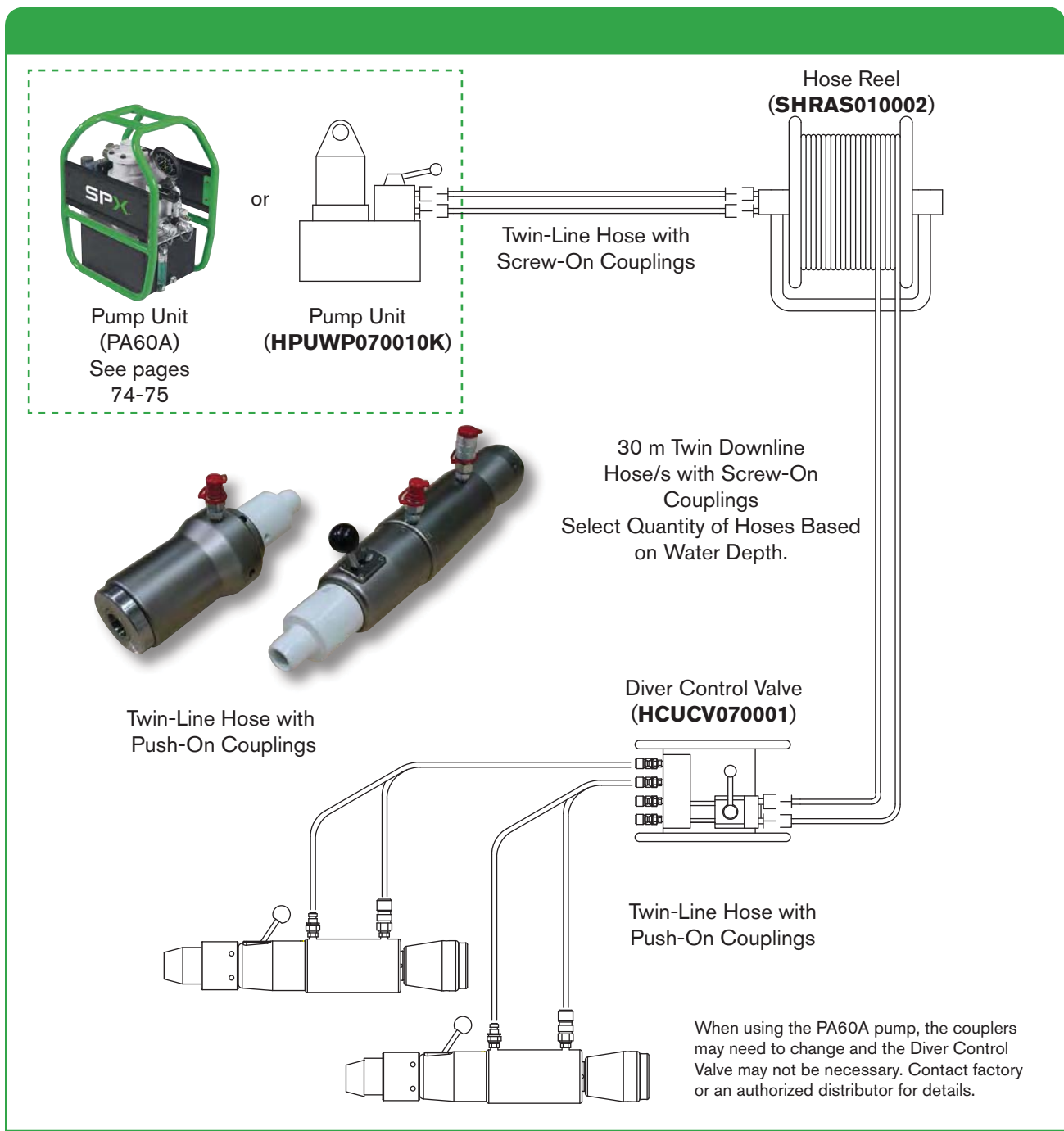
**Max stroke of cylinder:** 4.0" (102 mm)

**Diameter of wire ropes/drawbar available:** 19.0mm, 22.0mm, 1-1/8" 8UN Drawbar

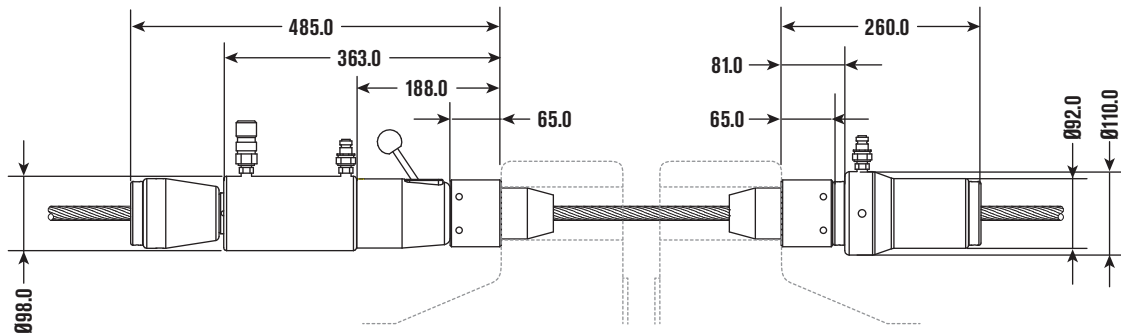
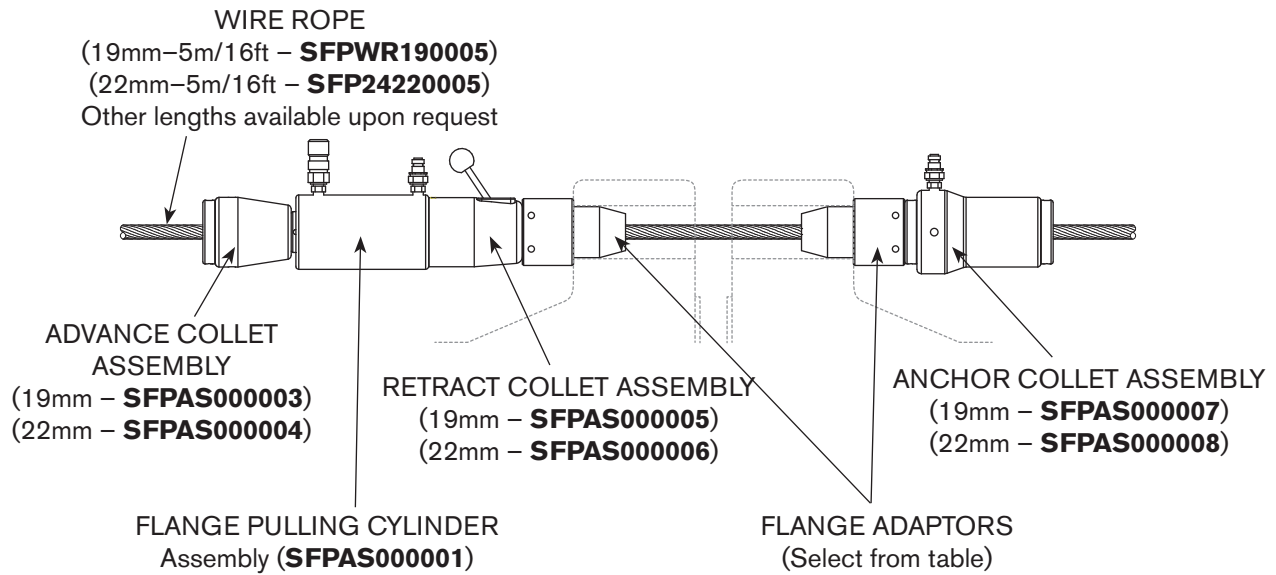
**Specified minimum breaking load of rope:** 19.0mm - 307 kN (30.8 tonf), 22mm - 415 kN (41.6 tonf)

**System operating pressure with 19.0/22.0 mm rope:** 5,000 psi (345 bar)

**System operating pressure with 1-1/8" drawbar (Gr B7):** 10,000 psi (690 bar)



**Specifications and Dimensional Data**

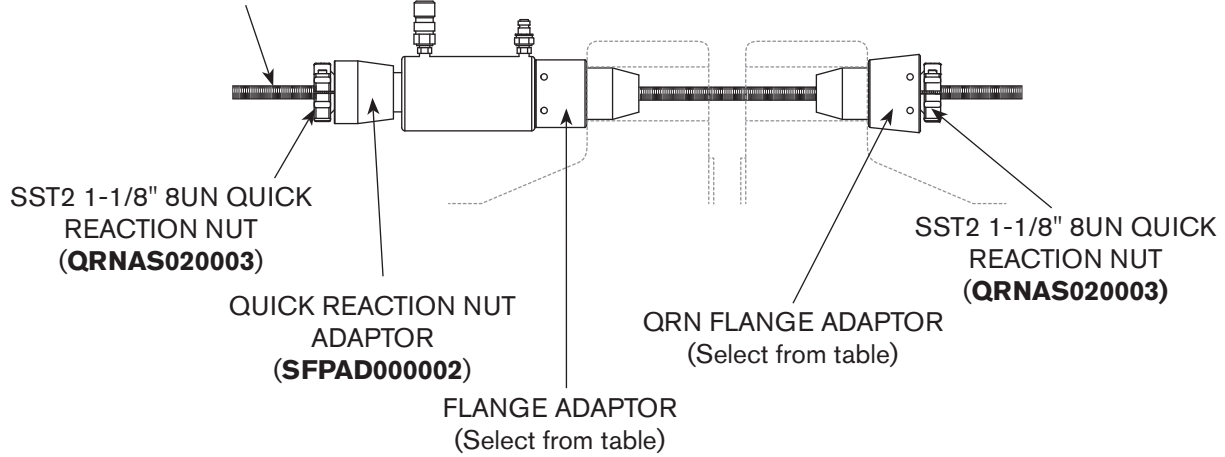


For Bolt Diameter		For Flange Hole Diameter		Wire Rope Flange Adapter Order No.
in	mm	in	mm	
3/4	M20	7/8	22.2	SFPWA000C00
7/8	M24	1	25.4	SFPWA000D00
1	M27	1-1/8	28.6	SFPWA000E00
1-1/8	M30	1-1/4	31.8	SFPWA000F00
1-1/4	M33	1-3/8	34.9	SFPWA000G00
1-3/8	M36	1-1/2	38.1	SFPWA000H00
1-1/2	M39	1-5/8	41.3	SFPWA000I00
1-5/8	M42	1-3/4	44.5	SFPWA000J00
1-3/4	M45	1-7/8	47.6	SFPWA000K00
1-7/8	M48	2	50.8	SFPWA000L00
2	M52	2-1/8	54	SFPWA000M00
2-1/4	M56	2-3/8	60.3	SFPWA000N00
2-1/2	M64	2-5/8	66.7	SFPWA000P00
2-3/4	M68/M70	2-7/8	73	SFPWA000Q00
3	M76	3-1/8	79.4	SFPWA000R00
3-1/4	M82	3-3/8	85.7	SFPWA000S00
3-1/2	M90	3-5/8	92.1	SFPWA000T00
3-3/4	M95	3-7/8	98.4	SFPWA000U00
4	M100	4-1/8	104.8	SFPWA000V00

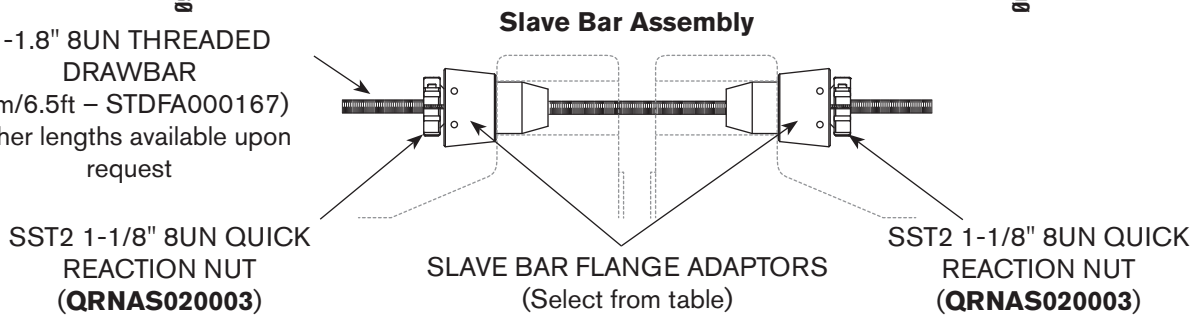
# THREADED BAR FLANGE PULLING SYSTEM

## Specifications and Dimensional Data

1-1.8" 8UN THREADED DRAWBAR  
(2m/6.5ft – **STDFA000167**)  
Other lengths available upon request



1-1.8" 8UN THREADED  
DRAWBAR  
(2m/6.5ft – **STDFA000167**)  
Other lengths available upon  
request



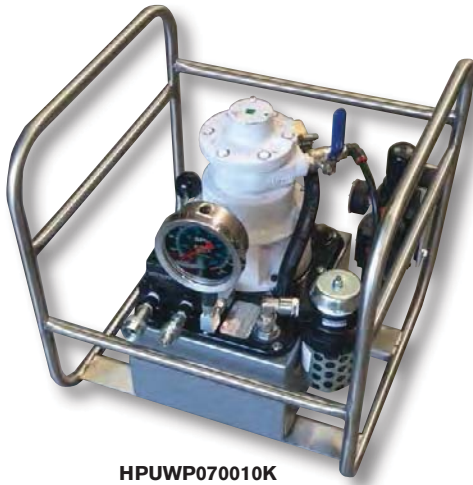
For Bolt Diameter		For Flange Hole Diameter		Threaded Drawbar Flange Adapter		
in	mm	in	mm	Flange Adapter	QRN Flange Adapter	Slave Bar Flange Adapter
1-1/4	M33	1-3/8	34.9	SFPTA000H00	SFPQA000H00	SFPSA000H00
1-3/8	M36	1-1/2	38.1			
1-1/2	M39	1-5/8	41.3	SFPTA000I00	SFPQA000I00	SFPSA000K00
1-5/8	M42	1-3/4	44.5	SFPTA000J00	SFPQA000J00	
1-3/4	M45	1-7/8	47.6	SFPTA000K00	SFPQA000K00	SFPSA000M00
1-7/8	M48	2	50.8	SFPTA000L00	SFPQA000L00	
2	M52	2-1/8	54	SFPTA000M00	SFPQA000M00	SFPSA000Q00
2-1/4	M56	2-3/8	60.3	SFPTA000N00	SFPQA000N00	
2-1/2	M64	2-5/8	66.7	SFPTA000P00	SFPQA000P00	SFPSA000Q00
2-3/4	M68/M70	2-7/8	73	SFPTA000Q00	SFPQA000Q00	
3	M76	3-1/8	79.4	SFPTA000R00	SFPQA000R00	SFPSA000T00
3-1/4	M82	3-3/8	85.7	SFPTA000S00	SFPQA000S00	
3-1/2	M90	3-5/8	92.1	SFPTA000T00	SFPQA000T00	SFPSA000V00
3-3/4	M95	3-7/8	98.4	SFPTA000U00	SFPQA000U00	
4	M100	4-1/8	104.8	SFPTA000V00	SFPQA000V00	

## SUBSEA ACCESSORIES

## HIGH FLOW PUMP

**Typical use: Flange Pullers, Torque Wrenches, Nutsplitters**

- Self priming, 2-speed operation
- 2.24 kw (3 hp) Air motor (50 CFM)
- 700 bar (10,000 psi) maximum pressure
- Calibratable 100mm (4") pressure gauge
- Adjustable pressure relief valve
- Flow rate up to 11.8 litres/min (720 cu. in/min)
- Internal oil cooler
- Low noise operation
- Pneumatic Filter/Regulator/Lubricator
- 9.5 Litre (2 gal.) Reservoir (optional oil level gauge)
- Carrying frame (WxLxH): 430 x 460 x 460 (mm)
- Weight: 40 Kg (88 lb) (inc. oil)
- Alternate Pump: PA60A can be used as an alternate to the **HPUW070010K** shown. See page 74 for details.



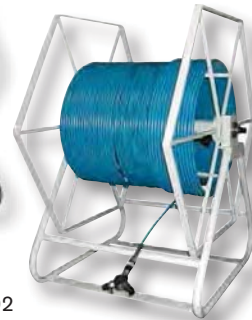
HPUW070010K

## SINGLE & TWIN-LINE HOSE REELS

- Hose reels available for tension and torque applications
- -30°C to 80°C working temperature range
- Female quick connect couplings as standard
- Hose Reel Dimensions (WxLxH): 750 x 1,000 x 1,050 (mm), 29" x 39" x 41"
- Hose Reel Weight: 65 Kg (145 lb) (without hose)



See page 102



## REMOTE DIVER CONTROL VALVE

**Gives diver precise control of Flange Pullers, Torque Wrenches, Nutsplitters, Jack, Cylinders, etc.**

- 700 bar (10,000 psi) maximum working pressure
- Allows connection of up to 4 tools
- Stainless steel construction (rust free)
- Internal relief valve controls retract pressure
- Couplers on reel side are flat face for easy connection under water. Couplers on valve side match the required tool.
- Dimensions (WxLxH): 420 x 270 x 200 (mm)
- Weight: 9 kg (19.8 lb)



HCUCV070001





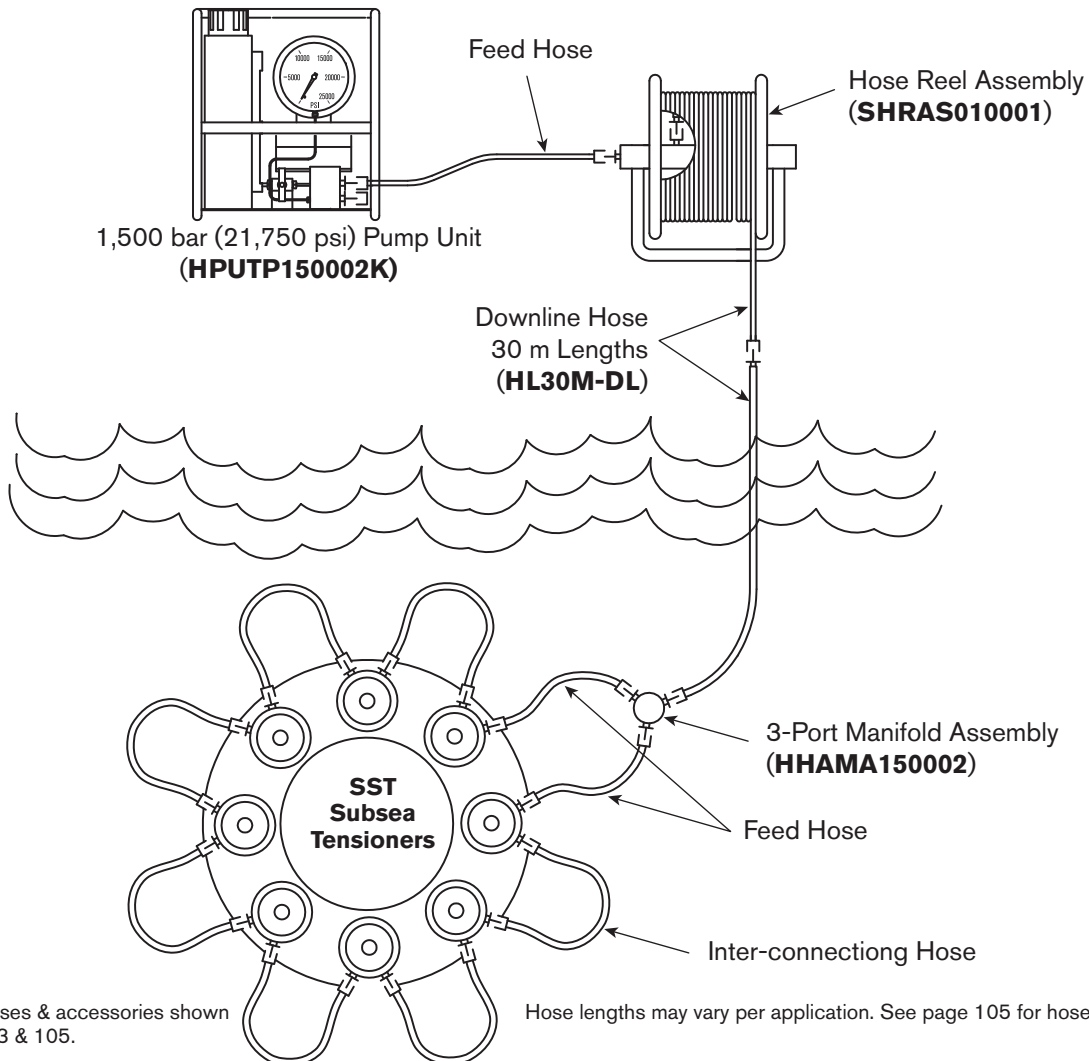
**HPOTP150002K**  
See pages 94-97

## HIGH FLOW BOLT-TENSIONING PUMP

### Typical use: Subsea Bolt Tensioners, Segmented Tensioners

- 1,500 bar (21,750 psi) maximum working pressure (restricted)
- Calibrated 150mm (6") pressure gauge
- Flow rate up to 1.14 litres/min (70 cu. in/min)
- Dual oil outlets with quick-connect no spill couplings
- Pneumatic Filter/Regulator/Lubricator
- 9.5 Litre (2 gal.) polyethylene reservoir
- Dimensions (WxLxH): 465 x 530 x 515 (mm), 18" x 20" x 20"
- Approx. Weight: 23 Kg (51 lb)

### OFFSHORE PUMP & HOSE ARRANGEMENT FOR SST SUBSEA TENSIONERS



1,500 bar hoses & accessories shown on pages 103 & 105.

Hose lengths may vary per application. See page 105 for hose options.