



BOLTING TOOLS AND SERVICES



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PSD SERIES SPECIFICATION



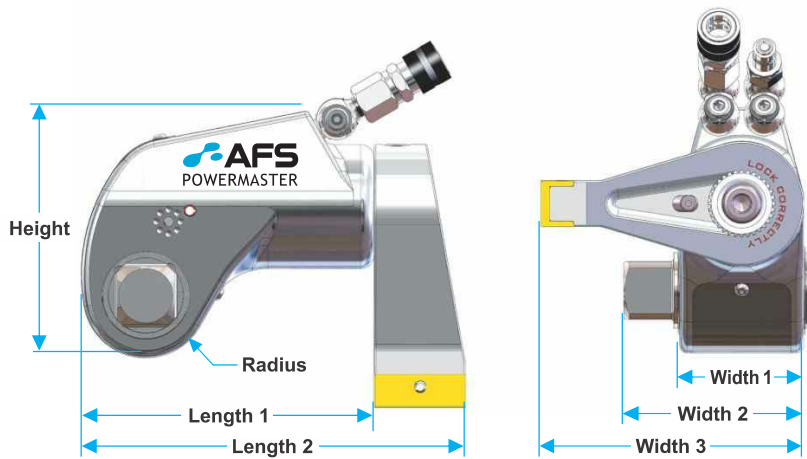
Our Most Advanced Square Drive Wrench

- Faster Stroke!
- Anti-Back Lash Mechanism!
- Hands-Off Operation!
- Less Moving Parts!
- Unique Design to Fit Every Application!
- Removeable lift and carry handle as standard

These are only a few of the Improvements that AFS Powermaster has brought to the Industry!

Technical

Model No.		PSD-0.75	PSD-1	PSD-2	PSD-3	PSD-5	PSD-7	PSD-11	PSD-15	PSD-20	PSD-27	PSD-60	PSD-100
Square Drive		3/4"	3/4"	3/4"	1"	1.1/2"	1.1/2"	1.1/2"	2.1/2"	2.1/2"	2.1/2"	2.1/2"	3.1/2"
Min. Torque	Kg-m	10	13	18	45	78	102	162	204	268	375	802	1390
	(Ft/Lbs)	(72)	(94)	(132)	(330)	(565)	(740)	(1,174)	(1,475)	(1,940)	(2,720)	(5,800)	(10,053)
Max. Torque	Kg-m	106	126	183	460	774	1020	1612	2040	2852	3762	8020	13900
	(Ft/Lbs)	(766)	(911)	(1,325)	(3,330)	(5,600)	(7,400)	(11,659)	(14,755)	(20,625)	(27,200)	(58,000)	(100,538)
Output Accuracy		+/-3%	+/-3%	+/-3%	+/-3%	+/-3%	+/-3%	+/-3%	+/-3%	+/-3%	+/-3%	+/-3%	+/-3%
Repeatability		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Duty Cycle		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Tool Weight	Kgs	1.0	1.25	2.50	4.20	8.40	8.90	13.6	22.0	28.5	32.7	60.8	109
	(Lbs)	(2.20)	(2.75)	(5.80)	(9.30)	(18.60)	(19.60)	(30.00)	(48.50)	(62.70)	(72.00)	(133.70)	(240.00)



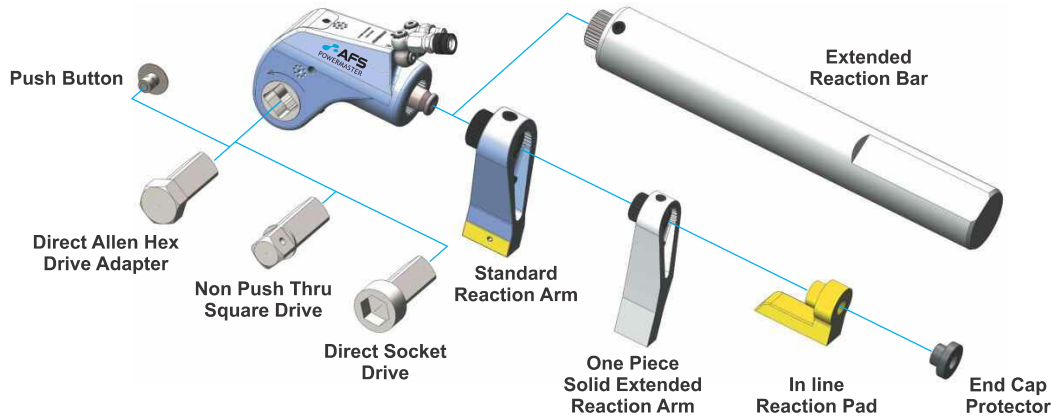
Dimensions

Model No.	PSD-0.75		PSD-1		PSD-2		PSD-3		PSD-5		PSD-7		PSD-11		PSD-15		PSD-20		PSD-27		PSD-60		PSD-100	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
Height	78	3	88	3.5	105	4.15	135	5.3	163	6.4	182	7.17	198	7.81	232	9.15	237	9.35	259	10.2	292	11.5	349	13.7
Length 1	120	4.75	94	3.7	121	4.76	153	6.02	194	7.62	208	8.2	227	8.95	295	11.6	274	10.8	294	11.6	367	14.5	469	18.5
Length 2	91.5	3.6	123	4.8	160	6.3	213	8.38	254	10	291	11.5	313	12.3	373	14.7	390	15.3	415	16.4	522	20.6	619	24.4
Radius	18.7	0.74	20	0.78	25	0.98	33	1.28	41	1.62	45	1.78	50	1.96	58.7	2.3	58	2.29	63	2.46	79	3.1	95	3.74
Width 1	40	1.57	42	1.65	51	2.01	67	2.64	82	3.22	92	3.61	100	3.94	100	3.93	124	4.86	134	5.28	167	6.58	200	7.87
Width 2	52.6	2	65	2.55	72	2.81	93	3.67	116	4.55	128	5.05	137	5.38	158	6.2	183	7.19	194	7.65	226	8.9	260	10.3
Width 3	86.7	3.4	87	3.43	118	4.63	149	5.85	175	6.89	204	8.03	225	8.86	252	9.93	275	10.8	293	11.5	372	14.6	412	16.2

Note : All tool weights include Couplers, Swivels, Reaction Arm and Internal Oil.

*** Please ensure all parts & model numbers are prefixed with AFS when ordering**

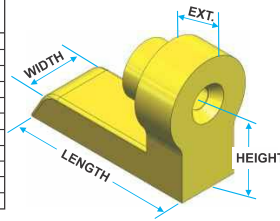
PSD SERIES ACCESSORIES



In line Reaction Pad

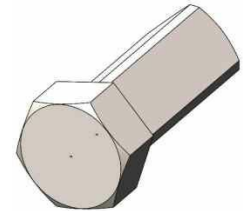
Tool Model	Length	Height	Width	Ext.
PSD-0.75	2.00	1.31	0.92	0.50
PSD-1	2.00	1.31	0.92	0.50
PSD-2	3.55	1.65	1.13	0.83
PSD-3	4.50	2.15	1.52	1.09
PSD-5	5.10	2.45	1.85	1.33
PSD-7	6.25	2.90	2.05	1.65
PSD-11	6.85	3.26	2.24	1.96
PSD-15	7.20	3.75	2.45	2.20
PSD-20	9.05	4.13	3.14	3.00
PSD-27	8.85	4.33	2.30	2.75
PSD-60	10.62	5.51	4.00	3.54

• All Dimensions are in inches.



Direct Allen Hex Drive Adapter

Tool Model	Direct Allen Hex Drive Adapter Model
PSD-0.75	APSD-0.75-11 (Specify A/F Size)
PSD-1	APSD-1-11 (Specify A/F Size)
PSD-2	APSD-2-11 (Specify A/F Size)
PSD-3	APSD-3-11 (Specify A/F Size)
PSD-5	APSD-5-11 (Specify A/F Size)
PSD-7	APSD-7-11 (Specify A/F Size)
PSD-11	APSD-11-11 (Specify A/F Size)
PSD-15	APSD-15-11 (Specify A/F Size)
PSD-20	APSD-20-11 (Specify A/F Size)
PSD-27	APSD-27-11 (Specify A/F Size)
PSD-60	APSD-60-11 (Specify A/F Size)



Non Push Thru Square Drive

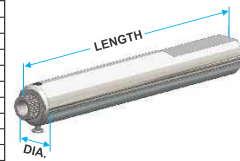
Tool Model	Non Push Thru Square Drive Model
PSD-0.75	APSD-0.75-NPSD
PSD-1	APSD-1-NPSD
PSD-2	APSD-2-NPSD
PSD-3	APSD-3-NPSD
PSD-5	APSD-5-NPSD
PSD-7	APSD-7-NPSD
PSD-11	APSD-11-NPSD
PSD-15	APSD-15-NPSD
PSD-20	APSD-20-NPSD
PSD-27	APSD-27-NPSD
PSD-60	APSD-60-NPSD



Extended Reaction Tube

Tool Model	Extended Reaction Tube Model	Dia.	Length
PSD-0.75	APSD-0.75-03-ERT	1.65	13.77
PSD-1	APSD-1-03-ERT	1.65	13.77
PSD-2	APSD-2-03-ERT	2.00	18.57
PSD-3	APSD-3-03-ERT	2.63	23.75
PSD-5	APSD-5-03-ERT	3.00	22.50
PSD-7	APSD-7-03-ERT	3.50	23.00
PSD-11	APSD-11-03-ERT	3.75	25.10
PSD-15	APSD-15-03-ERT	4.00	22.50
PSD-20	APSD-20-03-ERT	4.00	21.65
PSD-27	APSD-27-03-ERT	5.00	16.50
PSD-60	APSD-60-03-ERT	6.00	14.00

• All Dimensions are in inches.



Direct Socket Drive

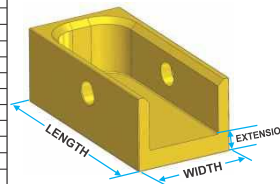
Tool Model	Direct Socket Drive Model
PSD-0.75	APSD-0.75-DS
PSD-1	APSD-1-DS
PSD-2	APSD-2-DS
PSD-3	APSD-3-DS
PSD-5	APSD-5-DS
PSD-7	APSD-7-DS
PSD-11	APSD-11-DS
PSD-15	APSD-15-DS
PSD-20	APSD-20-DS
PSD-27	APSD-27-DS
PSD-60	APSD-60-DS



Extension Boot

Part No.	Ext.	Length	Width
APSD0.75-03-EXT1	1.00	1.133	0.75
APSD0.75-03-EXT2	2.00		
APSD0.75-03-EXT3	3.00		
APSD1-03-EXT1	1.00	1.133	0.75
APSD1-03-EXT2	2.00		
APSD1-03-EXT3	3.00		
APSD2-03-EXT1	1.00	1.520	1.00
APSD2-03-EXT2	2.00		
APSD2-03-EXT3	3.00		
APSD3-03-EXT1	1.00	2.000	1.25
APSD3-03-EXT2	2.00		
APSD3-03-EXT3	3.00		
APSD5-03-EXT1	1.00	2.741	2.00
APSD5-03-EXT2	2.00		
APSD5-03-EXT3	3.00		
APSD7-03-EXT1	1.00	2.741	1.75
APSD7-03-EXT2	2.00		
APSD7-03-EXT3	3.00		
APSD11-03-EXT1	1.00	3.000	2.00
APSD11-03-EXT2	2.00		
APSD11-03-EXT3	3.00		
APSD15-03-EXT1	1.00	3.11	2.32
APSD15-03-EXT2	2.00		
APSD15-03-EXT3	3.00		
APSD20-03-EXT1	1.00	4.17	2.50
APSD20-03-EXT2	2.00		
APSD20-03-EXT3	3.00		
APSD27-03-EXT1	1.00	4.000	2.50
APSD27-03-EXT2	2.00		
APSD27-03-EXT3	3.00		
APSD60-03-EXT1	1.00	5.11	3.5
APSD60-03-EXT2	2.00		
APSD60-03-EXT3	3.00		

• All Dimensions are in inches. • PSD-100: Parts available on request.



End Cap Protector

Tool Model	End Cap Protector Model
PSD-0.75	APSD-0.75-EC
PSD-1	APSD-1-EC
PSD-2	APSD-2-EC
PSD-3	APSD-3-EC
PSD-5	APSD-5-EC
PSD-7	APSD-7-EC
PSD-11	APSD-11-EC
PSD-15	APSD-15-EC
PSD-20	APSD-20-EC
PSD-27	APSD-27-EC
PSD-60	APSD-60-EC



Types of Reaction Arms



* Please ensure all parts & model numbers are prefixed with AFS when ordering

PSD SERIES FEATURES

PSD Square Drive - Performance Guaranteed!

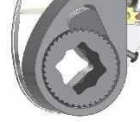



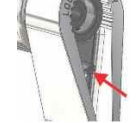


▲ PSD-7 *Torques the Nut in Seconds!*

The Multi - Faceted PSD Series is the preferred tool of choice on many applications in almost every industry . From Petrochemical Plants, Steel Plants, Offshore Platforms and across the Renewable Energy Sector, the PSD series is one of the most versatile tools in our range.



◀ PSD-3 *Bolt tightening of Centrifugal pump casing*

<p>Mono Body Housing: Highest quality aircraft grade 7075T6 Aluminium housing for unrivalled strength.</p>		<p>360 Swivels: Dual 360° Swivel allows free 360° individual movement of duplex hoses across all applications.</p>	
<p>Multi Tooth Ratchet Assembly: Highest strength teeth ensures 27° torque stroke with greatest accuracy.</p>		<p>Non-drip Quick Connects Couplers: 4:1 safety ratio couplers. Assure safe operation with ease for engaging and disengaging of hoses.</p>	
<p>Square Drive: “Push through” Square Drive that easily pushes through to switch from loosen to tighten.</p>		<p>Anti Backlash Mechanism: Allows hands free working.</p>	
<p>Laser Engraved Torque Chart: Laser engraved shroud for on the spot Torque chart viewing.</p>		<p>Drive Plate: Single piece high strength alloy drive plate for maximum life. Allows small nose radius for the tool.</p>	
<p>Piston Assembly: Smooth leak proof functioning of enclosed alloy steel piston provides required torque. Uses a single seal for maximum maintenance free operation.</p>		<p>Direct Housing Reaction: Allows use without reaction arm</p>	
<p>Boot: Replaceable pad allowing on site change over. Protects costly replacement of reaction arm.</p>		<p>Reaction Arm Release Button: Housed within the reaction arm.</p>	
<p>Reaction Arm: Long Length Reaction Arm allows multi positioning. Allows taking reaction on most applications.</p>		<p>Drive Segment: Ensures tool will never lock up.</p>	

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EVOQ SERIES SPECIFICATIONS

Hydraulic Wrenches just got better....



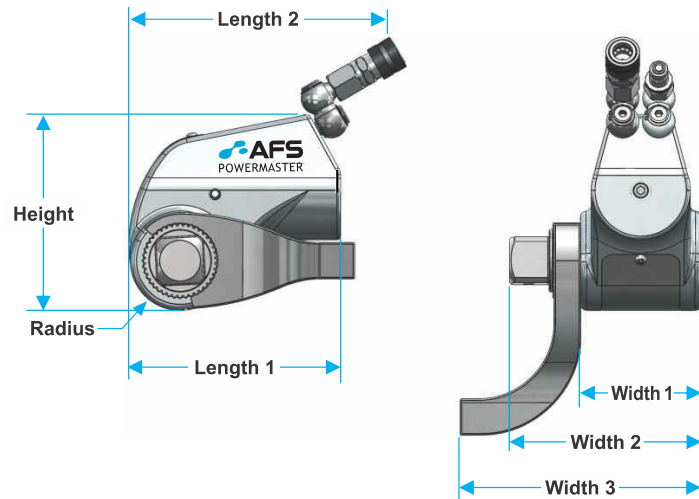
- * In Line Reaction Arm
- * Faster Stroke
- * Anti-Back Lash Mechanism
- * Accurate Repeatability
- * Hands-Off Operation
- * Less Moving Parts
- * Universal Design to Fit Every Application
- * Removeable lift and carry handle as standard

The EVOQ series wrenches have similar features to the PSD series wrenches but with the additional advantage of having an "Inline to square drive" reaction arm which prevents torsional twisting load on the body of the hydraulic wrench that happens with conventional hydraulic wrenches.

Technical

Model No.	EV-2	EV-3	EV-5	EV-7	EV-11
Square Drive	3/4"	1"	1.1/2"	1.1/2"	1.1/2"
Min. Torque Kg-m(Ft/Lbs)	18 (132)	45 (330)	77 (560)	102 (740)	162 (1,174)
Max. Torque Kg-m(Ft/Lbs)	183 (1,325)	460 (3,330)	770 (5,600)	1,020 (7,400)	1,612 (11,659)
Output Accuracy	+/-3%	+/-3%	+/-3%	+/-3%	+/-3%
Repeatability	100%	100%	100%	100%	100%
Duty Cycle	100%	100%	100%	100%	100%
Tool Weight Kgs/(Lbs)	1.77 / (3.90)	4.09 / (9.00)	8.85 / (19.50)	13.50 / (29.60)	16.80 / (37.10)

Easy change over of Square Drive from loosen to tighten.



Dimensions

Model No.	EV-2		EV-3		EV-5		EV-7		EV-11	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
Height	104.60	4.12	134.50	5.29	162.30	6.40	182.20	7.17	198.35	7.81
Length 1	109.00	4.30	148.80	5.85	176.00	6.93	208.43	8.20	227.35	8.95
Length 2	170.90	6.72	209.00	8.22	216.70	8.53	290.93	11.45	313.33	12.33
Radius	25.00	0.98	32.50	1.27	41.28	1.62	45.20	1.78	49.88	1.96
Width 1	66.00	2.59	82.80	3.25	100.00	3.93	116.80	4.60	125.00	4.92
Width 2	101.00	3.97	123.30	4.85	159.00	6.25	177.20	6.97	186.30	7.33
Width 3	141.00	5.55	183.00	7.20	200.00	7.87	218.00	8.58	250.70	9.87

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PXD SERIES SPECIFICATIONS



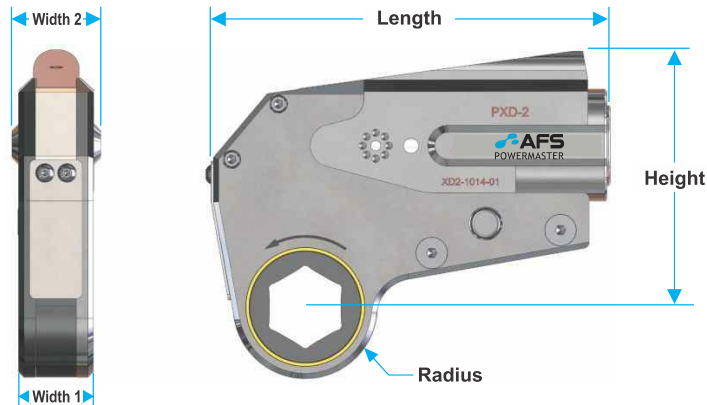
Our Most Compact Hydraulic Wrench Ever

- Flat Design from Cylinder to Link!
- Unique Shaped Piston!
- Direct Flow Oil Distribution for Faster Stroke!
- Removeable lift and carry handle as standard
- Less Moving Parts!
- Accurate Repeatability!
- Hands-Off Operation!

Are only a few of the reasons why the AFS Powermaster PXD is the only tool of its kind!

Technical

Model No.	PXD-0.75	PXD-1	PXD-1.5	PXD-2	PXD-4	PXD-8	PXD-16	PXD-32	PXD-45
Tool Hex from	13mm/ 1/2"	13mm/ 1/2"	19mm/ 3/4"	19mm/ 3/4"	25mm/1"	50mm/1.7/8"	65mm/2.5/8"	80mm/3.1/8"	80mm/3.1/8"
to	41mm/1.5/8"	46mm/1.13/16"	46mm/1.13/16"	65mm/2.9/16"	80mm/3.1/8"	115mm/4.5/8"	135mm/5.5/16"	205mm/8"	205mm/8"
Min. Torque Kg-m (Ft/Lbs)	5.6(41)	6(45)	10(70)	25(181)	55(398)	110(798)	212(1,533)	436(3,156)	562(4,066)
Max. Torque Kg-m (Ft/Lbs)	68(490)	93(673)	137(995)	293(2,120)	620(4485)	1,473(10,654)	2,438(17,624)	4,889(35,340)	6,550(47,347)
Output Accuracy	+/- 3%	+/- 3%	+/- 3%	+/- 3%	+/- 3%	+/- 3%	+/- 3%	+/- 3%	+/- 3%
Repeatability	100%	100%	100%	100%	100%	100%	100%	100%	100%
Duty Cycle	100%	100%	100%	100%	100%	100%	100%	100%	100%
Corrosion Protection	Standard								
Cylinder Weight Kgs / (Lbs)	0.38/(0.84)	0.50/(1)	0.55/(1.2)	1.59/(3.50)	2.73/(6.00)	5.32/(11.70)	7.27/(16.00)	11.82/(26.00)	13.7/(30.2)
Link Weight from Kgs / (Lbs)	0.47/(1)	0.50/(1)	0.60/(1.3)	1.09/(2.40)	2.45/(5.40)	5.41/(11.90)	9.55/(21.00)	13.18/(29.00)	13.18/(29.00)
to Kgs / (Lbs)	0.47/(1)	0.50/(1)	0.90/(2.0)	1.59/(3.50)	3.45/(7.60)	6.59/(14.50)	12.73/(2.00)	17.95/(39.50)	17.95/(39.50)



Dimensions

Model No.	PXD-0.75		PXD-1		PXD-1.5		PXD-2		PXD-4		PXD-8		PXD-16		PXD-32		PXD-45	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
Length	108.00	4.25	111.00	4.37	107.00	4.20	167.00	6.57	203.20	8.00	253.00	9.96	330.00	13.00	390.00	15.35	450.00	17.71
Height	82.60	3.25	82.60	3.25	87.00	3.40	103.00	4.05	144.00	5.66	179.50	7.06	193.80	7.63	278.00	10.94	278.00	10.94
Width 1	18.00	0.70	20.40	0.80	28.00	1.10	31.80	1.25	41.80	1.64	52.40	2.06	64.00	2.51	82.35	3.24	82.35	3.24
Width 2	18.00	0.70	24.25	0.95	28.00	1.10	38.00	1.49	47.40	1.86	58.00	2.28	70.00	2.75	92.00	3.62	124.00	4.88
Radius	5.80	0.23	5.80	0.23	7.50	0.30	9.30	0.36	11.85	0.46	13.90	0.54	16.80	0.66	23.75	0.94	23.75	0.94

Note : All tool weights include Couplers, Swivels and Internal Oil.

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PXD SERIES FEATURES

PXD Low Profile - The Perfect Solution for Tight Applications!






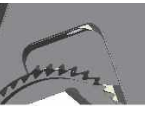



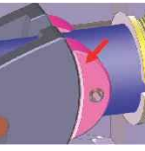


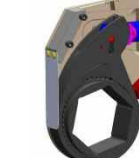
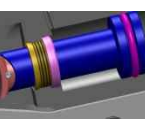
▲
PXD-4 simple efficiency

Low Clearance **ABOVE** The Nut - Go PXD!
 Restricted Clearance **BEHIND** The Nut - Go PXD!
 Reduced Clearance **BETWEEN** The Nut - Go PXD!



The PXD cylinder and link are the same width.

An AFS Powermaster exclusive that allows a flat contact between the wrench and flange surface, even in the tightest of applications. ▶

<p>High Strength Body: Cylinder and Link Body are manufactured from high grade, high strength alloy.</p>		<p>Multi Tooth Ratchet Assembly: Highest strength teeth ensures 27° torque stroke with greatest accuracy.</p>	
<p>Flat Design Cylinder And Link: Equal width of cylinder and link ensures tool sits flat on flange surface. Allows use in most confined areas.</p>		<p>Never Lock Drive Segment: Never lock drive segment does not let the wrench lock and thus eliminates the requirement of a ratchet release mechanism.</p>	
<p>360 Swivels: Dual 360° Swivel allows free 360° individual movement of duplex hoses across all applications.</p>		<p>In-line Reaction Pad: This ensures torsion free reaction during use.</p>	
<p>Non-drip Quick Connects Couplers: 4:1 safety ratio couplers. Assure safe operation with ease for engaging and disengaging of hoses.</p>		<p>Sliders: Reduce friction and prevent wear on the piston.</p>	
<p>Link Pin: One simple pin for cassette link to cylinder engagement without using any additional or special tool.</p>		<p>Alignment Pins: Ensure equal load distribution between the 2 side plates.</p>	
<p>Drive Plate: Single piece high strength alloy drive plate for maximum life. Allows small nose radius for the tool.</p>		<p>Piston Seals: High temperature Polyurethane seals ensure years of maintenance free operation.</p>	

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PXD SERIES HEX LINK PART NUMBERS

PXD-0.75 Link	Hex	PXD-1 Link	Hex	PXD-1.5 Link	Hex	PXD-2 Link	Hex	PXD-4 Link	Hex
Number	Size	Number	Size	Number	Size	Number	Size	Number	Size
PXD-0.75RL008	1/2"	PXD-1RL008	1/2"	PXD-1.5RL008	1/2"	PXD-2RL012M19	3/4"	PXD-4RL100	1"
PXD-0.75RL13M	13mm	PXD-1RL13M	13mm	PXD-1.5RL13M	13mm	PXD-2RL013	13/16"	PXD-4RL101M27	1-1/16"
PXD-0.75RL009	9/16"	PXD-1RL009	9/16"	PXD-1.5RL009	9/16"	PXD-2RL014M22	7/8"	PXD-4RL102	1-1/8"
PXD-0.75RL14M	14mm	PXD-1RL14M	14mm	PXD-1.5RL14M	14mm	PXD-2RL015	15/16"	PXD-4RL103M30	1-3/16"
PXD-0.75RL010	5/8"	PXD-1RL010	5/8"	PXD-1.5RL010	5/8"	PXD-2RL24M	24mm	PXD-4RL32M	32mm
PXD-0.75RL15M	15mm	PXD-1RL15M	15mm	PXD-1.5RL15M	15mm	PXD-2RL100	1"	PXD-4RL104	1-1/4"
PXD-0.75RL17M	17mm	PXD-1RL17M	17mm	PXD-1.5RL17M	17mm	PXD-2RL101M27	1-1/16"	PXD-4RL105	1-5/16"
PXD-0.75RL011"	16-Nov	PXD-1RL011"	16-Nov	PXD-1.5RL011"	16-Nov	PXD-2RL102	1-1/8"	PXD-4RL106M35	1-3/8"
PXD-0.75RL012M19	3/4"	PXD-1RL012M19	3/4"	PXD-1.5RL012M19	3/4"	PXD-2RL103M30	1-3/16"	PXD-4RL36M	36mm
PXD-0.75RL013	13/16"	PXD-1RL013	13/16"	PXD-1.5RL013	13/16"	PXD-2RL32M	32mm	PXD-4RL107	1-7/16"
PXD-0.75RL014M22	7/8"	PXD-1RL014M22	7/8"	PXD-1.5RL014M22	7/8"	PXD-2RL104	1-1/4"	PXD-4R108M38	1-1/2"
PXD-0.75RL015	15/16"	PXD-1RL015	15/16"	PXD-1.5RL015	15/16"	PXD-2RL105	1-5/16"	PXD-4R109	1-9/16"
PXD-0.75RL24M	24mm	PXD-1RL24M	24mm	PXD-1.5RL24M	24mm	PXD-2RL106M35	1-3/8"	PXD-4RL110M41	1-5/8"
PXD-0.75RL100	1"	PXD-1RL100	1"	PXD-1.5RL100	1"	PXD-2RL36M	36mm	PXD-4RL111	1-11/16"
PXD-0.75RL101M27	1-1/16"	PXD-1RL101M27	1-1/16"	PXD-1.5RL101M27	1-1/16"	PXD-2RL107	1-7/16"	PXD-4RL112	1-3/4"
PXD-0.75RL102	1-1/8"	PXD-1RL102	1-1/8"	PXD-1.5RL102	1-1/8"	PXD-2R108M38	1-1/2"	PXD-4RL113M46	1-13/16"
PXD-0.75RL103M30	1-3/16"	PXD-1RL103M30	1-3/16"	PXD-1.5RL103M30	1-3/16"	PXD-2R109	1-9/16"	PXD-4RL114	1-7/8"
PXD-0.75RL32M	32mm	PXD-1RL32M	32mm	PXD-1.5RL32M	32mm	PXD-2RL110M41	1-5/8"	PXD-4RL115M49	1-15/16"
PXD-0.75RL104	1-1/4"	PXD-1RL104	1-1/4"	PXD-1.5RL104	1-1/4"	PXD-2RL111	1-11/16"	PXD-4RL50M	50mm
PXD-0.75RL105	1-5/16"	PXD-1RL105	1-5/16"	PXD-1.5RL105	1-5/16"	PXD-2RL112	1-3/4"	PXD-4RL200	2"
PXD-0.75RL106M35	1-3/8"	PXD-1RL106M35	1-3/8"	PXD-1.5RL106M35	1-3/8"	PXD-2RL113M46	1-13/16"	PXD-4RL201	2-1/16"
PXD-0.75RL36M	36mm	PXD-1RL36M	36mm	PXD-1.5RL36M	36mm	PXD-2RL114 1-7/8"		PXD-4RL202	2-1/8"
PXD-0.75RL107	1-7/16"	PXD-1RL107	1-7/16"	PXD-1.5RL107	1-7/16"	PXD-2RL115M49	1-15/16"	PXD-4RL203M55	2-3/16"
PXD-0.75R108M38	1-1/2"	PXD-1R108M38	1-1/2"	PXD-1.5R108M38	1-1/2"	PXD-2RL50M	50mm	PXD-4RL204	2-1/4"
PXD-0.75R109	1-9/16"	PXD-1R109	1-9/16"	PXD-1.5R109	1-9/16"	PXD-2RL200	2"	PXD-4RL205	2-5/16"
PXD-0.75RL110M41	1-5/8"	PXD-1RL110M41	1-5/8"	PXD-1.5RL110M41	1-5/8"	PXD-2RL201	2-1/16"	PXD-4RL206M60	2-3/8"
		PXD-1RL111	1-11/16"	PXD-1.5RL111	1-11/16"	PXD-2RL202	2-1/8"	PXD-4RL207	2-7/16"
		PXD-1RL112	1-3/4"	PXD-1.5RL112	1-3/4"	PXD-2RL203M55	2-3/16"	PXD-4RL208	2-1/2"
		PXD-1RL113M46	1-13/16"	PXD-1.5RL113M46	1-13/16"	PXD-2RL204	2-1/4"	PXD-4RL209M65	2-9/16"
						PXD-2RL205	2-5/16"	PXD-4RL210	2-5/8"
						PXD-2RL206M60	2-3/8"	PXD-4RL211	2-11/16"
						PXD-2RL207	2-7/16"	PXD-4RL212M70	2-3/4"
						PXD-2RL208	2-1/2"	PXD-4RL213	2-13/16"
						PXD-2RL209M65	2-9/16"	PXD-4RL214	2-7/8"
								PXD-4RL215M75	2-15/16"
								PXD-4RL300	3"
								PXD-4RL301	3-1/16"
								PXD-4RL302M80	3-1/8"



Change sizes by removing single link pin

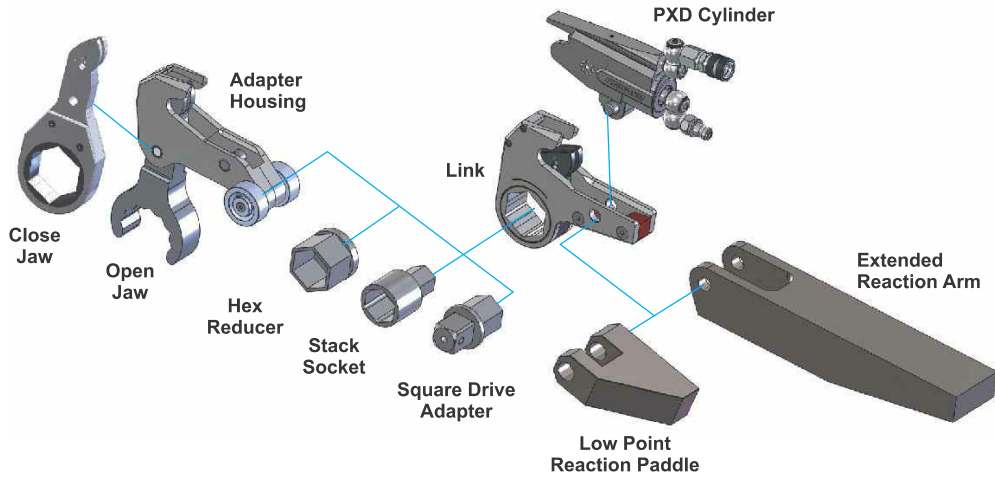
* Please ensure all parts & model numbers are prefixed with AFS when ordering

PXD SERIES HEX LINK PART NUMBERS

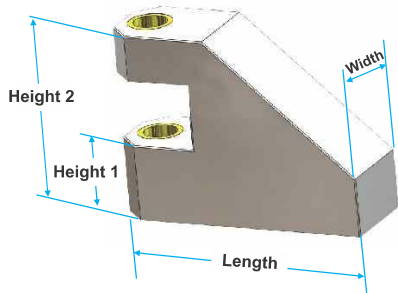
PXD-8 Link	Hex		PXD-16 Link	Hex		PXD-32 Link	Hex		PXD-32 Link	Hex	
Number	Size		Number	Size		Number	Size		Number	Size	
PXD-8RL114	1-7/8"		PXD-16RL209M65	2-9/16"	65mm	PXD-32RL302M80	3-1/8"	80mm	PXD-32RL514	5-7/8"	
PXD-8RL115M49	1-15/16"	49mm	PXD-16RL210	2-5/8"		PXD-32RL303	3-3/16"		PXD-32RL150M		150mm
PXD-8RL50M		50mm	PXD-16RL211	2-11/16"		PXD-32RL304	3-1/4"		PXD-32RL515	5-15/16"	
PXD-8RL200	2"		PXD-16RL212M70	2-3/4"	70mm	PXD-32RL305	3-5/16"		PXD-32RL600	6"	
PXD-8RL201	2-1/16"		PXD-16RL213	2-13/16"		PXD-32RL85M		85mm	PXD-32RL601	6-1/16"	
PXD-8RL202	2-1/8"		PXD-16RL214	2-7/8"		PXD-32RL306	3-3/8"		PXD-32RL155M		155mm
PXD-8RL203M55	2-3/16"	55mm	PXD-16RL215M75	2-15/16"	75mm	PXD-32RL307	3-7/16"		PXD-32RL602	6-1/8"	
PXD-8RL204	2-1/4"		PXD-16RL300	3"		PXD-32RL308	3-1/2"		PXD-32RL603	6-3/16"	
PXD-8RL205	2-5/16"		PXD-16RL301	3-1/16"		PXD-32RL90M		90mm	PXD-32RL604	6-1/4"	
PXD-8RL206M60	2-3/8"	60mm	PXD-16RL302M80	3-1/8"	80mm	PXD-32RL309	3-9/16"		PXD-32RL160M		160mm
PXD-8RL207	2-7/16"		PXD-16RL303	3-3/16"		PXD-32RL310	3-5/8"		PXD-32RL605	6-5/16"	
PXD-8RL208	2-1/2"		PXD-16RL304"	3-1/4"		PXD-32RL311	3-11/16"		PXD-32RL606	6-3/8"	
PXD-8RL209M65	2-9/16"	65mm	PXD-16RL305	3-5/16"		PXD-32RL312M95	3-3/4"	95mm	PXD-32RL607	6-7/16"	
PXD-8RL210	2-5/8"		PXD-16RL85M		85mm	PXD-32RL313	3-13/16"		PXD-32RL608 M165	6-1/2"	165mm
PXD-8RL211	2-11/16"		PXD-16RL306	3-3/8"		PXD-32RL314	3-7/8"		PXD-32RL609	6-9/16"	
PXD-8RL212M70	2-3/4"	70mm	PXD-16RL307	3-7/16"		PXD-32RL315M100	3-15/16"	100mm	PXD-32RL610	6-5/8"	
PXD-8RL213	2-13/16"		PXD-16RL308	3-1/2"		PXD-32RL400	4"		PXD-32RL611M170	6-11/16"	170mm
PXD-8RL214	2-7/8"		PXD-16RL90M		90mm	PXD-32RL401	4-1/16"		PXD-32RL612	6-3/4"	
PXD-8RL215M75	2-15/16"	75mm	PXD-16RL309	3-9/16"		PXD-32RL402M105	4-1/8"	105mm	PXD-32RL613	6-13/16"	
PXD-8RL300	3"		PXD-16RL310	3-5/8"		PXD-32RL403	4-3/16"		PXD-32RL614	6-7/8"	
PXD-8RL301	3-1/16"		PXD-16RL311	3-11/16"		PXD-32RL404	4-1/4"		PXD-32RL175M		175mm
PXD-8RL302M80	3-1/8"	80mm	PXD-16RL312M95	3-3/4"	95mm	PXD-32RL405	4-5/16"		PXD-32RL 615	6-15/16"	
PXD-8RL303	3-3/16"		PXD-16RL313	3-13/16"		PXD-32RL110M		110mm	PXD-32RL700	7"	
PXD-8RL304	3-3/4"		PXD-16RL314	3-7/8"		PXD-32RL406	4-3/8"		PXD-32RL701	7-1/16"	
PXD-8RL305	3-5/16"		PXD-16RL315M100	3-15/16"	100mm	PXD-32RL407	4-7/16"		PXD-32RL180M		180mm
PXD-8RL85M	85mm		PXD-16RL400	4"		PXD-32RL408	4-1/2"		PXD-32RL702	7-1/8"	
PXD-8RL306	3-3/8"		PXD-16RL401	4-1/16"		PXD-32RL115M		115mm	PXD-32RL703	7-3/16"	
PXD-8RL307	3-7/16"		PXD-16RL402M105	4-1/8"	105mm	PXD-32RL409	4-9/16"		PXD-32RL704	7-1/4"	
PXD-8RL308	3-1/2"		PXD-16RL403	4-3/16"		PXD-32RL410	4-5/8"		PXD-32RL185M		185mm
PXD-8RL90M		90mm	PXD-16RL404	4-1/4"		PXD-32RL120M		120mm	PXD-32RL705	7-5/16"	
PXD-8RL309	3-9/16"		PXD-16RL405	4-5/16"		PXD-32RL411	4-11/16"		PXD-32RL706	7-3/8"	
PXD-8RL310	3-5/8"		PXD-16RL110M		110mm	PXD-32RL412	4-3/4"		PXD-32RL707	7-7/16"	
PXD-8RL311	3-11/16"		PXD-16RL406	4-3/8"		PXD-16RL413	4-13/16"		PXD-32RL190M		190mm
PXD-8RL312M95	3-3/4"	95mm	PXD-16RL407	4-7/16"		PXD-32RL414	4-7/8"		PXD-32RL708	7-1/2"	
PXD-8RL313	3-13/16"		PXD-16RL408	4-1/2"		PXD-32RL125M		125mm	PXD-32RL709	7-9/16"	
PXD-8RL314	3-7/8"		PXD-16RL115M		115mm	PXD-32RL415	4-15/16"		PXD-32RL710	7-5/8"	
PXD-8RL315M100	3-15/16"	100mm	PXD-16RL409	4-9/16"		PXD-32RL500	5"		PXD-32RL711M195	7-11/16"	195mm
PXD-8RL400	4"		PXD-16RL410	4-5/8"		PXD-32RL501	5-1/16"		PXD-32RL712	7-3/4"	
PXD-8RL401	4-1/16"		PXD-16RL120M		120mm	PXD-32RL502M130	5-1/8"	130mm	PXD-32RL713	7-13/16"	
PXD-8RL402M105	4-1/8"	105mm	PXD-16RL411	4-11/16"		PXD-32RL503	5-3/16"		PXD-32RL714M200	7-7/8"	200mm
PXD-8RL403	4-3/16"		PXD-16RL412	4-3/4"		PXD-32RL504	5-1/4"		PXD-32RL715	7-15/16"	
PXD-8RL404	4-1/4"		PXD-16RL413	4-13/16"		PXD-32RL505M135	5-5/16"	135mm	PXD-32RL800	8"	
PXD-8RL405	4-5/16"		PXD-16RL414	4-7/8"		PXD-32RL506	5-3/8"		PXD-32RL200M		205mm
PXD-8RL110M		110mm	PXD-16RL125M		125mm	PXD-32RL507	5-7/16"				
PXD-8RL406	4-3/8"		PXD-16RL415	4-15/16"		PXD-32RL508M140	5-1/2"	140mm			
PXD-8RL407	4-7/16"		PXD-16RL500	5"		PXD-32RL509	5-9/16"				
PXD-8RL408	4-1/2"		PXD-16RL501	5-1/16"		PXD-32RL510	5-5/8"				
PXD-8RL115M		115mm	PXD-16RL502M130	5-1/8"	130mm	PXD-32RL511	5-11/16"				
			PXD-16RL503	5-3/16"		PXD-32RL145M		145mm			
			PXD-16RL504	5-1/4"		PXD-32RL512	5-3/4"				
			PXD-16RL505M135	5-5/16"	135mm	PXD-32RL513	5-13/16"				

*** Please ensure all parts & model numbers are prefixed with AFS when ordering**

PXD SERIES SPECIFICATIONS



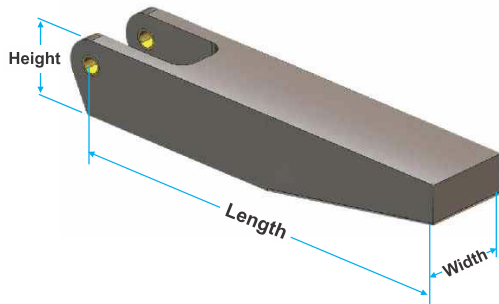
Low Point Reaction Arm



Tool Model	Low Point Reaction Arm Model	Length	Width	Height 1	Height 2
PXD-0.75	PXD-0.75-RP	2.73	0.65	0.90	1.96
PXD-1	PXD-1-RP	2.73	0.65	0.90	1.96
PXD-1.5	PXD-1.5-RP	2.73	0.65	0.80	1.96
PXD-2	PXD-2-RP	4.35	1.03	1.49	3.26
PXD-4	PXD-4-RP	5.65	1.23	2.02	4.23
PXD-8	PXD-8-RP	7.15	1.78	2.53	5.35
PXD-16	PXD-16-RP	9.05	2.51	3.04	6.36
PXD-32	PXD-32-RP	11.20	3.26	3.95	8.30
PXD-45	PXD-45-RP	11.20	3.26	3.95	8.30

• All Dimensions are in inches.

Extended Reaction Arm



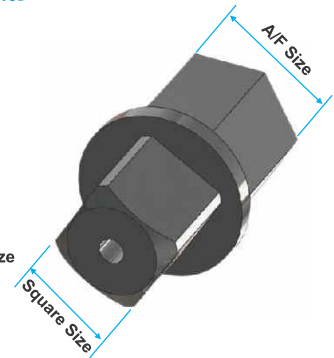
Tool Model	Extended Reaction Arm Model	Length	Height	Width
PXD-0.75	PXD-0.75-EXT	13.5	1.25	1.25
PXD-1	PXD-1-EXT	13.5	1.25	1.25
PXD-1.5	PXD-1.5-EXT	13.5	1.25	1.15
PXD-2	PXD-2-EXT	19.80	1.54	1.90
PXD-4	PXD-4-EXT	20.29	2.05	2.40
PXD-8	PXD-8-EXT	20.85	2.52	3.03
PXD-16	PXD-16-EXT	21.50	3.04	3.65
PXD-32	PXD-32-EXT	22.28	3.95	4.52
PXD-45	PXD-45-EXT	22.28	3.95	4.52

• All Dimensions are in inches.

Hex To Square Drive Adapter

Tool Model	Hex To Square Drive Adapter Model
PXD-0.75	AHS0.75
PXD-1	AHS1
PXD-1.5	AHS1.5
PXD-2	AHS 2
PXD-4	AHS 4
PXD-8	AHS 8
PXD-16	AHS 16
PXD-32	AHS 32
PXD-45	AHS 45

• Specify A/F size and Square size when ordering.

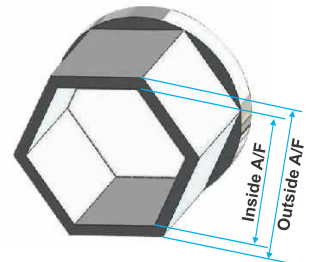


Hex Reducer

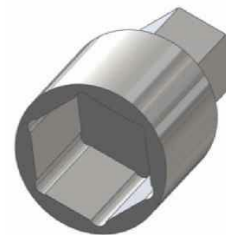
• Indicate Outside A/F, Inside A/F when ordering.

Tool Model	Hex Reducer Model
PXD-0.75	HR-0.75-##
PXD-1	HR-1-##
PXD-1.5	HR-1.5-##
PXD-2	HR-2-##
PXD-4	HR-4-##
PXD-8	HR-8-##
PXD-16	HR-16-##
PXD-32	HR-32-##
PXD-45	HR-45-##

• # - Inside and outside A/F of Hex Reducer to be specified.



Stack Socket



*** Please ensure all parts & model numbers are prefixed with AFS when ordering**

QUADRA-PORT SYSTEM

Quadra-Port - For Fast-Accurate-Even Bolt Loading

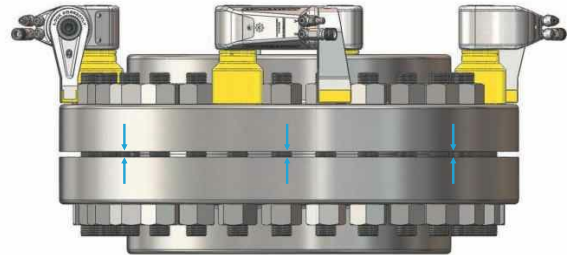
The primary focus of the Quadra-Port System is to eliminate the common “Criss-Cross” bolt tightening pattern that causes crushing or over torquing of gaskets. With the Quadra-Port System multi AFS Powermaster hydraulic torque wrenches are utilized along with our Quadra-Port Hydraulic Pumps. Once the AFS Powermaster wrenches are in place a single operator can apply even load at the push of a button. The Quadra-Port System will evenly close the gap and apply equal torque to $\pm 3\%$ accuracy!



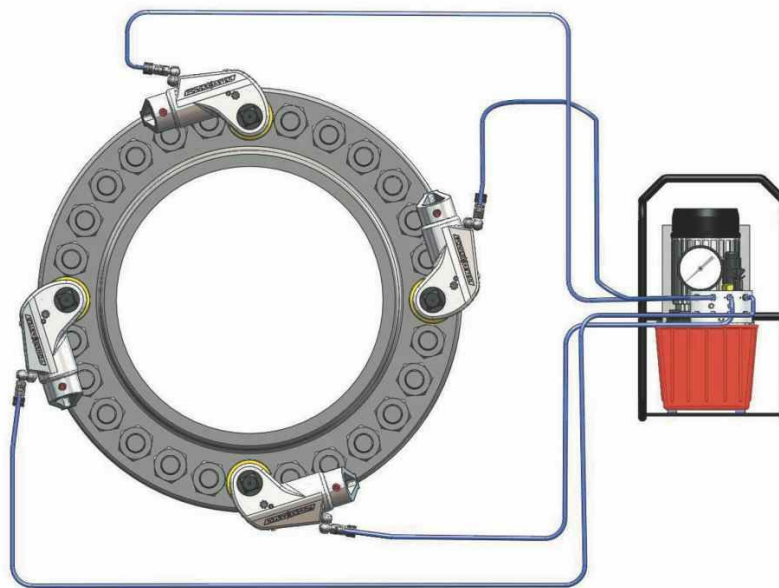
Quadra-Port - Ensures Even Load Distribution !



Uneven load using one tool



Even and precise loading with Quadra-Port 4 tool system.



Quadra-Port four tool system

*** Please ensure all parts & model numbers are prefixed with AFS when ordering**

POWER PACKS

EP1000 Electric



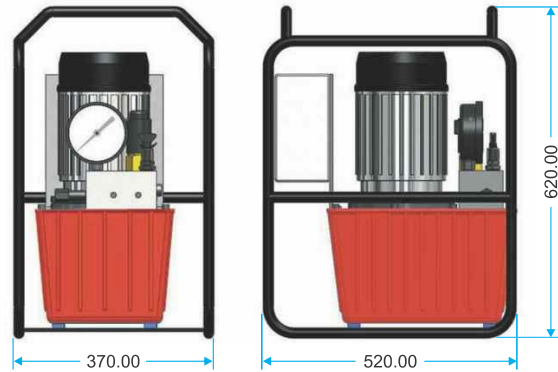
EP1000 with Mono Port



EP1000 with Quadra Port (4 Port)

EP1000 - High Flow - High Speed for Heavy Duty Application

- Quadra-Port Multi-Port Manifold (Max. 4 Ports).
- Cool running continuous duty axial piston pump.
- Single phase induction motor.
- 115V and 230V available.
- Starts under full load.
- Runs on reduced voltage.
- Quiet operation (approx. 80 dBA @ 10,000 PSI).
- Rugged remote pendant to control motor and valve.
- Easily adjustable pressure control knob.
- Auto-dump relieves oil pressure from hoses.
- Completely enclosed motor housing and electronics.
- 2 Gallon oil reservoir.
- Precise PSI/BAR pressure gauge.
- Quick-connect no-drip couplers with safety locking collar.
- Supplied with dual non-conductive high pressure hose with couplers.



Resvr. Size (Gal.)	Valve		Motor Specifications	Flow Rate		Weight	
	Control	Type		600 psi	10,000 psi	kg	lbs
2	Solenoid	3 Way/2 Pos.	1.5 HP Single Phase	11 lpm	0.9 lpm	38	84

Retract pressure is preset at 1,300 PSI.

*** Please ensure all parts & model numbers are prefixed with AFS when ordering**

POWER PACKS

AP1000 Pneumatic



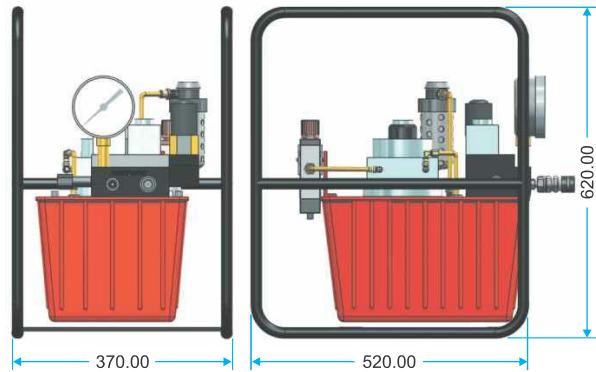
AP1000 with Mono Port



AP1000 with Quadra Port (4 Port)

AP1000 - High Flow - High Speed for Heavy Duty Application

- Quadra-Port Multi-Port Manifold (Max. 4 Ports).
- Cool running continuous duty axial piston pump.
- Powerful industrial duty air motor.
- Runs on 70 cfm / 90 PSI of air.
- Quiet operation (approx. 75-80 dBA @ 10,000 PSI).
- Rugged remote pendant to control motor and valve.
- Easily adjustable pressure control knob.
- Auto-dump relieves oil pressure from hoses.
- Filter-lubricator for long trouble free operation.
- 2 Gallon oil reservoir.
- Precise PSI/BAR pressure gauge.
- Quick-connect no-drip couplers with safety locking collar.
- Supplied with dual non-conductive high pressure hose with couplers.



Resvr. Size (Gal)	Valve		Motor Specifications	Flow Rate @ 70 cfm/ 90psi		Weight	
	Control	Type		600 psi	10,000 psi	kg	lbs
2	Solenoid	3 Way/2 Pos.	Industrial Rotary Air	11 lpm	0.9 lpm	37	81

Retract pressure is preset at 1,300 PSI.

PUMP ACCESSORIES



Quadra-Port
Multi-Port Manifold (Max. 4 Ports)



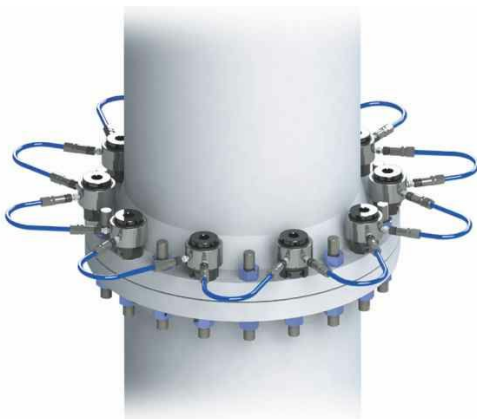
Hoses available in all lengths
(5m hose standard with all pumps)



No-Drip Quick-Connect Couplers
(Standard on all AFS Powermaster equipment)

*** Please ensure all parts & model numbers are prefixed with AFS when ordering**

BOLT TENSIONERS



Bolt tensioning is now the preferred method of tightening bolts and studs on all critical applications. Bolt tensioners are designed for operation in a wide variety of applications including pipeline flanges, heat exchangers, pressure vessels, compressor covers, boiler feed pumps, windmills and many others. We provide a comprehensive range of bolt tensioners for optimum solutions to bolt tensioning requirements. Our Bolt tensioners and accessories are CE marked in accordance with Pressure Equipment and Machinery Directives, as applicable. In comparison to traditional tightening methods, tightening with bolt tensioners offers significant advantages:

- No torsional loading of fasteners.
- Direct loading - no damage to assembly.
- Easy and fast operation.
- Very high accuracy and repeatability.
- Automation feasible and can be used for critical applications.

PST SERIES TOPSIDE BOLT TENSIONERS



PST Series Bolt Tensioners are designed for operation in a wide variety of applications including pipeline flanges, heat exchangers, pressure vessels, compressor covers, boilers feed pumps, anchors bolts and many others.

The PST Bolt Tensioner is very simple to use and consists of four parts -Threaded Puller, Load Cell, Bridge and Nut Driver (Nut Rotating Socket).



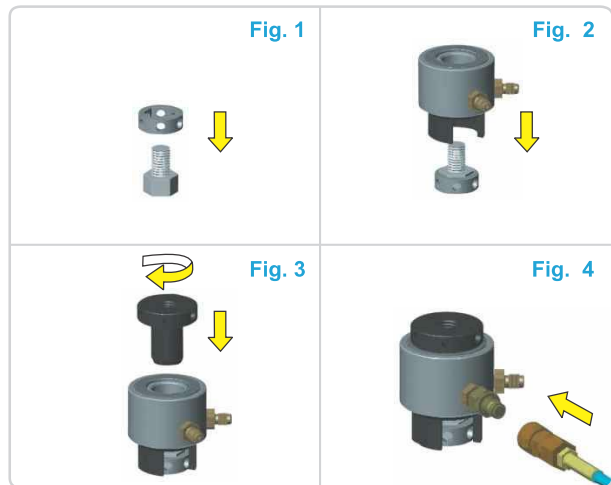
*** Please ensure all parts & model numbers are prefixed with AFS when ordering**

PST SERIES TOPSIDE BOLT TENSIONERS

Brief Operational Sequence

The nut-driver is placed over the nut (**fig.1**). The bridge and load cell is then placed over the bolt (**fig.2**). The Puller is then screwed over the stud protruding above the nut face (**fig.3**) making sure that at least 1 x diameter of bolt is engaged with the Threaded Puller.

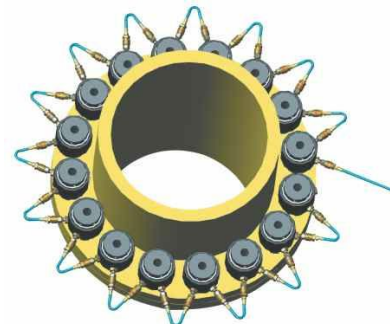
Desired hydraulic pressure is now applied to load cell, which stretches the bolt. (**fig.4**). The nut is turned down using the nut-driver and tommy bar. The Pressure is then released leaving the stud loaded to the desired value.



THE PST SERIES TOPSIDE BOLT TENSIONERS IS ONE OF THE MOST LIGHT, COMPACT AND VERSATILE LINE OF TENSIONERS AVAILABLE:

Features :

- **Versatile Design:** The PST Series standard variable tensioners are designed to provide a wide range of flexibility, covering stud sizes from 3/4" to 5.3/4" (M-16 to M-150). Different stud sizes are accommodated by the same load cell by simply changing the adaptor kit consisting of Threaded Puller, Bridge and Nut Driver.
- **High Strength Aircraft Quality Alloy Steel:** The PST Series tensioners operate at a maximum pressure of 1500 Bar and are manufactured from high strength AISI 4340 alloy steel parts for long lasting trouble free performance.
- **Stroke Indicator:** The PST Series tensioners have and an exceptional stroke of 15 mm. The Integral Stroke Indicator allows the piston stroke to be viewed while tensioning is in progress. A Red line on piston indicates an over stroke ensuring safe operation.
- **Safe Design in event of Piston 'Over Stroke':** The PST series tensioners are designed so that in event of over- stroke the high pressure fluid will be released from the inner side of the load cell, thus saving the operator from any potential exposure.
- **Multi Tensioning:** The PST Series load cell is provisioned with two connections and this acts as a manifold for multi tensioning applications. By using high pressure link hoses, any number of bolt tensioners can be connected and used simultaneously. This ensures equal tightening of all bolts on the flange and reduces work time.
- **Anti Roll, Composite Material Seals:** All PST Tensioners are fitted with Anti Roll, Composite Material seals for longer life and high reliability. The seals used have a low coefficient of friction so that the piston can be returned to a closed position with minimal effort. PST Series tensioners can be provided with machined PU (poly urethane) seals if requested by the customer.
- **Floating Piston:** The unique piston design allows 2° tilt without any loss of load, preventing piston seizure or damage to piston bore.

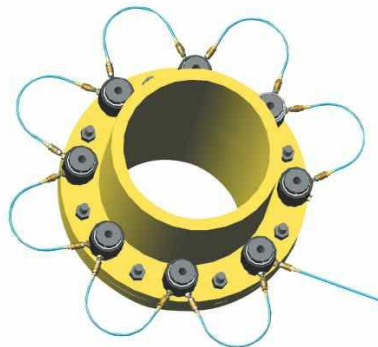


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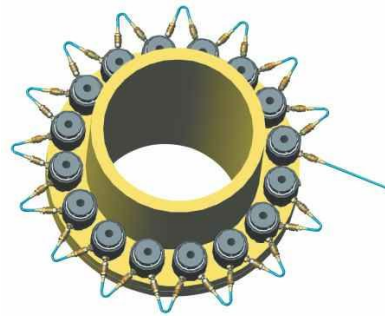
BOLT TENSIONER APPLICATION

Important formula :

- (A) **Residual Bolt Load** = Bolt Stress x Bolt Tensile Stress Area
 = (Bolt Stretch x Modulus of Elasticity x Bolt Tensile stress area) ÷ Effective Length.
- (B) **Bolt Tensile Stress Area** = $(3.14 \times D \times D) \div 4$ (D is smallest Stress Dia of Bolt)
- (C) **% of Yield Strength** = (Bolt Stress Required / Yield Strength of bolt) x 100
- (D) **Hydraulic Pressure** = (Residual Bolt Load x Load Relaxation Factor) ÷ Hydraulic Area of Load Cell.
- (E) **Load Relaxation Factor** = $1.01 + (\text{Bolt Size (Dia.)} \div \text{Effective Length})$ or 1.1 which ever is greater.



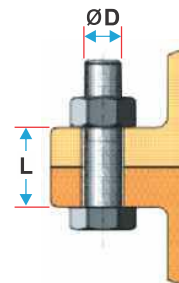
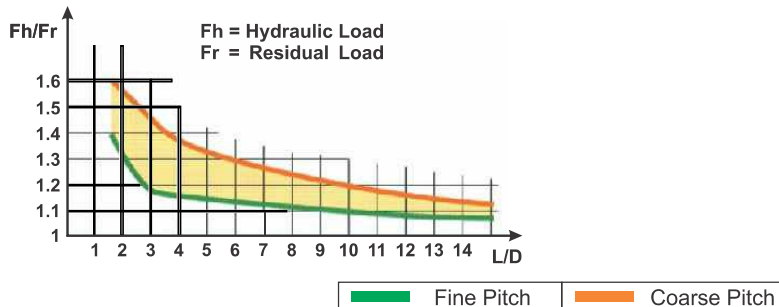
50% Tool Coverage



100% Tool Coverage

Basic Calculation and Working :

- a. Calculate Bolt Residual Load: Residual Load can be calculated from known stress or bolt stretch requirement.
- b. Calculate Load Relaxation factor using Bolt Dia and Effective Length. It can be calculated from below formula / Chart.



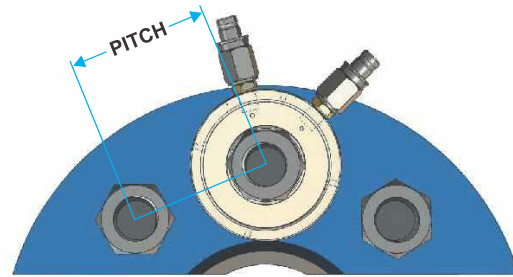
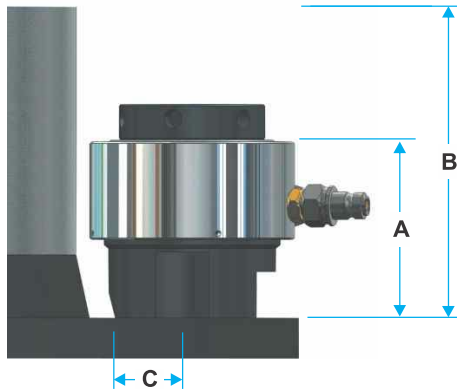
- c. Calculate application hydraulic load.
- d. Calculate hydraulic pressure for required hydraulic load.
- e. Select Tensioning Procedure. (25%, 50%, 100%...etc.)
- f. Calculate pass load as applicable. (Max applied load should never exceed 95% bolt yield strength).

Useful Conversions :

Area	: 1 millimeter ² (mm ²) = 0.00155 inch ² : 1 centimeter ² (cm ²) = 0.155 inch ²	1 inch ² = 645.16 mm ² 1 inch ² = 6.4516 cm ²
Load (Force)	: 1 Metric Ton (mt) = 1.10231 Short Ton (US) : 1 Kilo Niwton, kN = 224.8089 lb : 1 Metric Ton (mt) = 9.8066 kN	
Pressure	: 1 Megapascal (MPa) = 10 Bar : 1 Kg per cm ² (Kg/cm ²) = 0.98066 Bar	1 bar = 14.5037 psi 1 bar = 1.0197 Kg/cm ²

*** Please ensure all parts & model numbers are prefixed with AFS when ordering**

PST SERIES TOPSIDE BOLT TENSIONERS



Technical Details:

Load Cell	Model No.	Adaptor Kit	Bolt Size		Max Load		Hyd Area		O.D.	Min Pitch	Relief C	Height A	Clearance B	Weight
			inch	mm	M Ton	kN	in ²	mm ²						
PST-01	A1-0.12		3/4		34.5	339	3.50	2257	84	46	30	86	160	3.5*
	A1-M20		20	47						30	86	160	1.3	
	A1-0.14		7/8	53						32	94	168	1.4	
	A1-M24		24	54						32	94	168	1.4	
	A1-1.00		1	55						32	94	168	1.4	
PST-02	A2-M27			27	40.6	397	4.11	2649	98	56	34	96	170	4.5*
	A2-1.02		1.1/8	59						37	98	172	1.8	
	A2-M30		30	62						37	97	173	1.9	
	A2-1.04		1.1/4	67						40	99	180	2.0	
	A2-M33		33	68						40	99	181	2.1	
	A2-1.06		1.3/8	72						43	101	186	2.3	
PST-03	A2-M36		36	73	43	101	187	2.3						
	A3-1.04		1.1/4	65.2	639	6.60	4259	115	69	40	99	185	5.9*	
	A3-M33		33						70	40	99	174	2.4	
	A3-1.06		1.3/8						74	43	101	177	2.9	
	A3-M36		36						75	43	101	178	2.9	
	A3-1.08		1.1/2						80	45	105	187	3.0	
A3-M39		39	80						43	105	186	3.0		
PST-04	A4-1.06		1.3/8	73.6	721	7.45	4808	128	75	43	101	183	7.7*	
	A4-M36		36						76	43	101	183	3.4	
	A4-1.08		1.1/2						81	45	105	183	3.6	
	A4-M39		39						81	45	105	183	3.6	
	A4-1.10		1.5/8						86	48	107	187	3.9	
	A4-M42		42						86	48	107	188	3.9	
PST-05	A4-1.12		1.3/4	96.1	942	9.73	6280	145	91	51	108	192	4.0	
	A5-1.10		1.5/8						87	48	113	198	11.4*	
	A5-M42		42						87	48	113	200	5.2	
	A5-1.12		1.3/4						92	51	117	205	5.4	
	A5-M45		45						93	51	117	206	5.4	
	A5-1.14		1.7/8						98	54	120	212	5.6	
	A5-M48		48						98	54	120	212	5.6	
A5-2.00		2	104	57	120	217	6.3							
PST-06	A5-M52		52	138.2	1354	13.99	9028	165	105	57	120	217	5.9	
	A6-1.14		1.7/8						99	54	120	209	14.8*	
	A6-M48		48						99	54	120	210	7.1	
	A6-2.00		2						105	57	123	215	7.6	
	A6-M52		52						106	57	123	215	7.6	
	A6-M56		56						113	62	126	223	7.8	
A6-2.04		2.1/4	114	62	126	224	7.8							

* Indicates weight of Load Cell + Adaptor Kit of particular size.

*** Please ensure all parts & model numbers are prefixed with AFS when ordering**

PST SERIES TOPSIDE BOLT TENSIONERS



Model No.		Bolt Size		Max Load		Hyd Area		O.D.	Min Pitch	Relief C	Height A	Clearance B	Weight
Load Cell	Adaptor Kit	inch	mm	M Ton	kN	in ²	mm ²	mm	mm	mm	mm	mm	kg.
PST-07	A7-M56		56	168.5	1651	17.06	11006	180	112	62	129	222	18.1*
	A7-2.04	2.1/4							112	62	129	224	9.3
	A7-M60		60						117	62	132	229	9.4
	A7-2.08	2.1/2							125	68	135	236	9.7
	A7-M64		64						125	68	135	236	9.7
	A7-M68		68						129	68	140	238	10.0
PST-08	A8-2.08	2.1/2		201.8	1978	20.44	13188	198	129	70	137	242	23.4*
	A8-M64		64						129	70	138	242	12.1
	A8-M68		68						132	69	143	249	12.3
	A8-2.12	2.3/4							139	75	146	254	12.5
	A8-M72		72						141	75	146	256	12.5
PST-09	A9-2.12	2.3/4		230.3	2257	23.30	15045	215	139	75	146	261	29.3*
	A9-M72		72						141	75	146	261	15.6
	A9-M76		76						150	80	150	263	17.2
	A9-3.00	3							150	80	151	264	17.2
PST-10	A10-M80		80	310.9	3047	31.48	20312	244	160	87	158	275	40.3*
	A10-3.04	3.1/4							162	87	158	278	24.0
	A10-M85		85						164	87	160	275	24.5
	A10-3.08	3.1/2							174	93	164	280	22.6
	A10-M90		90						175	93	164	279	22.6
	A10-M95		95						179	93	170	281	22.8
	A10-3.12	3.3/4							191	105	170	281	22.9
	A10-M100		100						195	105	177	304	22.1
A10-4.00	4		197	105	177	304	22.1						
PST-11	A11-3.12	3.3/4		384.5	3768	38.94	25120	280	192	106	172	299	52.7*
	A11-M100		100						196	106	179	306	31.4
	A11-4.00	4							198	106	179	299	31.4
	A11-4.04	4.1/4							209	111	186	312	36.4
	A11-M110		110						210	111	186	313	36.4
	A11-4.08	4.1/2							222	118	191	324	39.7
	A11-M120		120						226	118	198	330	41.4
	A11-4.12	4.3/4							229	121	202	342	42.3
	A11-M125		125						233	121	202	348	43.3
PST-12	A12-M125		125	485.1	4754	49.13	31694	325	236	124	204	354	89.6*
	A12-5.00	5							243	129	204	359	60.3
	A12-M130		130						243	126	207	361	63.1
	A12-5.04	5.1/4							254	135	210	367	63.1
	A12-5.08	5.1/2							266	141	217	380	70.4
	A12-M140		140						260	135	217	380	70.6
	A12-5.3/4	5.3/4							276	145	218	389	70.8
	A12-M150		150						275	141	221	396	73.3

* Weight of Load Cell + Adaptor Kit of particular size.

Please refer to catalog sheet - 'Basics of Tensioning' for Bolt Tensioners application and tool pressure calculation.

*** Please ensure all parts & model numbers are prefixed with AFS when ordering**

WIND TURBINE BOLT TENSIONERS

MSBT Series Bolt Tensioner :

These 1500 bar working pressure tensioners are specially developed from our Compact series to meet auto retract and ease of operation requirement of wind mill application.



Technical Details:

Model No.	Stud Dia		Outer Dia	Load	Stroke	OAL	A	B	C	Weight
	mm	inch								
MSBT-30	30	1.1/8	73	452	6	203	28	65	36.5	6.0
MSBT-33	33	1.1/4	78	516	6	229	32	73	39	8.0
MSBT-36	36	1.3/8	85	664	8	230	35	79	42.5	10
MSBT-39	39	1.1/2	94	862	8	252.5	37.5	81.5	48.5	12
MSBT-42	42	1.5/8	98	930	8	282	42	107	48.5	13
MSBT-45	45	1.3/4	108	1062	8	288	45	110	54	16
MSBT-48	48	1.7/8	114	1235	8	310	45	101	57	17

The main features of MSBT Series tensioners are as below :

- **Compact Design:** The tensioners are designed with smaller dia for ease of tool fitment.
- **Higher Working Pressure:** 1500 bar working pressure to generate higher load with smaller hydraulic area of tensioner.
- **Geared Nut Drive:** Geared Nut Driver to move the nut faster and with ease using standard 1/2" Square Drive Wrench.
- **Longer Stroke:** Tool is available with standard and long stroke as per application.
- **Alloy Steel Construction :** All parts are made from High Strength Alloy Steel better strength and compact design.
- **Customised Adaptor Kits :** CAT series tensioners are available with both standard and customised adaptor kit.
- **Optional Auto Spring Return:** Standard tensioners are available with optional auto spring retraction for fast and easy retraction of piston.

*** Please ensure all parts & model numbers are prefixed with AFS when ordering**

TSS SERIES SUB SEA BOLT TENSIONERS

TSS Series Bolt Tensioners are specially designed for sub sea applications. These Tensioners are suitable for higher pressure rating flanges also. It's ergonomic design makes it very easy to handle and use by divers under the harsh sea conditions. These tensioners are designed to provide a wide range of flexibility, covering stud sizes 3/4" to 3.1/2" (M-18 to M-85).

The tool consists of two basic parts - Tensioning Unit and Puller Nut as shown below:



Features :

- **High Strength Stainless Steel Construction:** The Complete tool is made from high strength stainless steel for use in corrosive sea environment and to minimize maintenance. Optional alloy still construction also available.
- **Versatile Design:** Designed to provide a wide range of flexibility, covering stud sizes 3/4" to 3.1/2" (M-18 to M-85) using just 8 load cells.
- **Higher Load generation:** Generates higher load making it suitable for higher pressure rating flanges (API 170 - 10K).
- **Long Stroke And Stroke Indication:** All tensioners have a 25mm long stroke with piston marked with fluorescent rings for indication of stroke and over stroke limit.
- **Safe Design in event of Piston 'Over Stroke':** Designed to release high pressure hydraulic oil inwards in the event of over-stroke, thus saving the operator from any potential exposure.
- **Multi Tensioning:** The tensioning unit cell is provisioned with two connections that act as a manifold for multi tensioning applications.
- **Anti Roll, Composite Material Seals:** Fitted with Anti Roll, Composite Material seals for longer life and high reliability. The seals used have a low coefficient of friction so that the piston can be returned to a closed position with minimal effort. Sub Sea tensioners can be provided with machined PU (poly urethane) seals if requested by the customer.
- **Split Nut:** Optional Split Nut available for fast and easy fitment which ensures most efficient use of expensive diver time.
- **Safe Handling:** Provisioned with detachable hooks and strap for easy handling under water.
- **Non Slip Tool Surface:** Knurled and formed surface allows easy handling.
- **Fluorescent band:** Fluorescent band provided on load cell body for easy tool identification in poor visibility conditions.

SPECIFIC APPLICATION BOLT TENSIONERS

Dedicated Tensioner :

Dedicated Tensioners are used for Specific Thread Size Application. In these tensioners the threaded piston acts as a puller too. These tensioners are specially designed for applications having space restrictions, around and the stud bolt.



These tensioners are designed and supplied to specific application requirement and have the below specific features:

- **Compact Design:** The dedicated tensioner has a very compact dia for required load and size with nominal requirement of operational height.
- **Customised Stroke:** Tool is available with standard 15mm and customised stroke as per application.
- **Alloy Steel Construction:** All parts are made from High Strength Alloy Steel for better strength and compact design.
- **Delivery:** In-house design and production facilities ensure faster customization and delivery.

Customized Tensioners :

These tensioners are designed for application where standard tensioner can not be accommodated due to space and load requirements. Working pressure may be 1500 to 2500 as per application.

All parts of these tensioners are made of Special High Strength Alloy Steel for better design and safety requirement.



AIR OPERATED HYDRAULIC BOLT TENSIONER PUMP PU-AH-1500



The PU-AH-1500 air operated pumps are designed and manufactured to meet the highest technical and safety requirements of high pressure equipment.

Model	PU-AH-1500	
Pressure Ratio		1:350
Displacement Volume	Cm3	1.3
Operating Pressure, Max. (at 5.1 bar Pre Limited (PL) Air Pressure)	bar	1,800
Compressed air supply (air drive)		
System Operating Air Pressure, Max.	bar	5.1
Safety Valve Set Pressure	bar	5.5
Stainless Steel Tank Capacity		
Oil Tank capacity	litre	5

Other Models with higher maximum operating pressures, digital pressure gauges and larger hydraulic reservoir capacities are available as per customer requirements.

Technical Features :

- **Stainless Steel Frame:** The hydraulic unit is installed in a weather proof stainless steel protection frame.
- **Logical Control Panel:** Logical layout design engraved for easy operation.
- **Calibrated Pressure Gauge:** Calibrated 150mm (6"), liquid filled, SS Frame, 2500 bar rating pressure gauge with dual reading of bar & psi.
- **Complete Air System:** System includes FRL Unit, air pressure gauge and control knob for safe air control and supply.
- **Higher Operating Pressure:** Pump has max working pressure of 1500 bar to cover all bolt tensioning applications.
- **Light Weight:** Unit weighs only 22 Kg and measures 380mm x 80mm x 410mm.
- **Lower Input air Pressure:** Higher pressure ratio of 1 : 350 ensures less input air pressure for operation.
- **Quick Connect Outlet:** Pump comes fitted with quick connect outlet for easy connection of hydraulic hose.

HAND PUMP PU-HP-1500

Hand Pump

This hand pump is specially designed for bolt tensioner applications. The pump is compact and light in weight with longer handle needing very little effort to generate max working load. All pumps are supplied with suitable fittings and stainless steel 70mm dia pressure gauge.



Model No.	Description	Usable Oil Capacity (Liters)	Outlet Coupler	Dimensions			Net Weight Kg.
				Length mm	Width mm	Height mm	
PU-HP-1500	1500 bar Hand Pump c/w 200 bar gauge	3.0	HCS-150-F	615	200	190	12.0

*** Please ensure all parts & model numbers are prefixed with AFS when ordering**

ELECTRIC BOLT TENSIONER PUMP PM-EH-1500



The PM-EH-1500 Electric motor with gear pump are designed to provide optimal service with bolt tensioner or hydraulic tools single-acting. Equipped with remote control with 5 m. cable for an easy use, 5 Ltr. tank, electromagnetic level and protective framework it is the ideal tool under all job conditions.

Model		PM-EH-1500
Maximum pressure 1st stage	bar	150
	psi	2,145
Maximum pressure 2nd stage	bar	1,500
	psi	21,450
Hydraulic flow 1st stage	Lt./min	3
Hydraulic flow 2nd stage	Lt./min	0.7
Power rating and Voltage	kW / V	0.7 / 230 V - 50Hz / single-phase
Speed	rpm	1500
Sound level	dB(A)	80
Intensification factor		13 : 1
Electric pump weight	Kg.	42 (with 5 Lt. Reservoir, frame and remote control)

Other Models with higher maximum operating pressures, digital pressure gauges and larger hydraulic reservoir capacities are available as per customer requirements.

Technical Features :

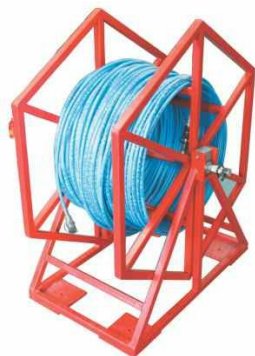
- **Heavy Duty Steel Frame:** Unit is enclosed in heavy duty frame for protection during handling usage and transportation.
- **Calibrated Pressure Gauge:** Calibrated 100mm (4"), liquid filled, 2000 bar rating pressure gauge with dual reading of bar and psi.
- **Ergonomical layout:** Logical layout of equipments and controls ensure easy operation and maintenance.
- **High Flow Rate:** Provides high initial flow rate to ensure faster operation.
- **Remote Control:** Handheld remote control for easy and safe operation.
- **High Quality Equipments:** Heavy duty cycle comforts for reliability and durability of the unit.

*** Please ensure all parts & model numbers are prefixed with AFS when ordering**

HIGH PRESSURE ACCESSORIES

High Pressure Tensioner Hoses :

High Pressure Tensioner Hoses for various tensioning applications are available in different lengths and end-fittings:



Hose Reel



Lead Hose



Connecting Hose

Features :

- 4- Ply construction.
- Available in 1.5m, 3m and 5m standard lengths. Other custom built lengths also available.
- Max. Working Pressure : 1800 Bar.
- Burst Pressure : 4500 Bar.
- Min. Bend Radius : 150mm
- All hoses fitted with quick connect Couplings at both ends.
- Working Temperature Range: -30 to 80 Deg C.
- Tensioner Hose Reel of upto 500m single hose for sub sea applications available with required end fittings.

Part No.	OAL Mtr.	QRC
PU-HG-0150	1.5	F X F
PU-HG-0300	3.0	F x F
PU-HG-0300-L	3.0	F x M
PU-HG-0500	5.0	F x F
PU-HG-0500-L	5.0	F x M

Manifolds, Fittings and Couplings :

Manifolds, Fittings and Couplings of various configurations are available for all tensioning applications:



Couplings



Fittings



Manifolds

Features :

- Manifold /Blocks for 1500 working pressure.
- T-Fittings for 1500 Bar working pressure.
- Male / Female Couplings for 1500 and 2500 bar working pressure.
- High Pressure Fittings and Adaptors.

Part No.	Description
HCS-150-F	Coupling, 150 Mpa
HCS-150-M	Nipple, 150 Mpa
HCS-250-F	Coupling, 250 Mpa
HCS-250-F	Nipple, 250 Mpa
HF-G4-G4	Fitting, G 1/4 CS
HF-G4-M16	Fitting G 1/4 x M16

*** Please ensure all parts & model numbers are prefixed with AFS when ordering**

SITE SERVICES

AFS TECHNOLOGIES - Offers a complete range of onsite and workshop based bolting services and training provision.



AFS Technologies Site Services offer the following advantages :

Safe * AFS Technologies personnel are all fully trained and accredited



Fast * Skilled and experienced will allow the job to be completed faster and more efficiently.

Economical * Fully inclusive rates including operators and tools for all applications.

Flexible * Short and long term rental and ad hock or contracted service support.

RENTAL



- * Complete range of bolting equipment available from stock.
- * All tools are fully serviced, tested, and certified prior to hire.
- * Flexible hire periods and same-day delivery service.
- * Controlled bolting and flange working software available to support your operation and improve on site efficiency.

CALL: 0044 (0) 1224 973900
E MAIL: Rentals@afst.uk.com

HEAVY DUTY BACKUP WRENCHES



Features :

- Heavy duty industrial construction.
- Ergonomic and Safe.
- Totally Mechanical - No Hydraulic.
- Easy to release.
- Eliminates Striker Wrenches, Shims a Vice Grip Style Backup Wrenches.
- Detachable Handle.
- Compact Size.
- Stock in Standard and Metric Sizes.

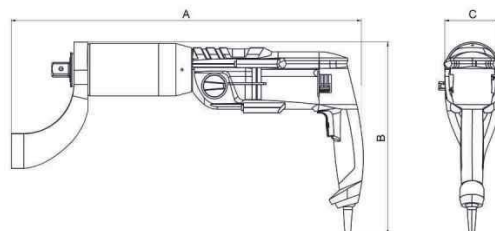
Technical Details:

HBW Wrench Cartridge Sizes							
Metric Sizes				Imperial Sizes			
Part No.	mm	Part No.	mm	Part No.	inch	Part No.	inch
HBC-19M	19MM	HBC-60M	60MM	HBC-012	3/4	HBC-203	2.3/16
HBC-22M	22MM	HBC-65M	65MM	HBC-014	7/8	HBC-206	2.3/8
HBC-24M	24MM	HBC-70M	70MM	HBC-100	1	HBC-209	2.9/16
HBC-27M	27MM	HBC-75M	75MM	HBC-102	1.1/8	HBC-212	2.3/4
HBC-30M	30MM	HBC-80M	80MM	HBC-104	1.1/4	HBC-215	2.15/16
HBC-32M	32MM	HBC-85M	85MM	HBC-106	1.3/8	HBC-300	3
HBC-36M	36MM	HBC-90M	90MM	HBC-107	1.7/16	HBC-302	3.1/8
HBC-41M	41MM	HBC-95M	95MM	HBC-108	1.1/2	HBC-304	3.1/4
HBC-46M	46MM	HBC-100M	100MM	HBC-110	1.5/8	HBC-308	3.1/2
HBC-50M	50MM	HBC-105M	105MM	HBC-113	1.13/16	HBC-312	3.3/4
HBC-55M	55MM			HBC-200	2	HBC-400	4
HBW - MS Set contains Wrench Handle along with 27, 30, 32, 36, 41, 46, 50, 55 and 60MM back hold cartridge.				HBW - IS Set contains Wrench Handle along with 1.1/4", 1.3/8", 1.7/16", 1.1/2", 1.13/16", 2", 2.3/16", 2.3/8" and 2.9/16" back hold cartridge.			

*** Please ensure all parts & model numbers are prefixed with AFS when ordering**

ELECTRIC TORQUE WRENCH ETW SERIES

The ETW Series wrench is hand held, non-impacting electrically driven power tool designed to apply higher torque values. Tool is designed to deliver a pre set torque load. Efficient safe and fast operation makes it suitable for heavy duty bolting application.



Technical Details :

Model	Min. Torque		Max. Torque		Free Speed rpm	Sq. Size inch	Dimension			Weight with Reaction Arm	
	ft.Lbf	Nm	ft.Lbf	Nm			A	B	C	kg	Lb
ETW-50	110	150	479	650	25	1"	550	250	85	8.5	18.7
ETW-100	221	300	1106	1500	9	1"	550	250	85	8.5	18.7
ETW-200	553	750	2212	3000	4.5	1"	580	250	85	10	22
ETW-300	811	1100	3097	4200	1.7	1.1/2"	600	250	90	11.5	25.4

Optional Accessories :

- Special customised reaction arms for specific applications are available on request .

Features :

The ETW Series features :

- Ease of Operation:** The wrench stops after the set torque value is achieved.
- Smooth Operation:** The wrench is designed for smooth running without any impact.
- Wide Range :** Wide range of torque power from 150 Nm. to 4200 Nm. covered in four models.
- Accurate and Convenient :** Light weight, ergonomically designed tool and electronically controlled cut-off system ensures repeatability of torque value.
- High Performance Gear Box:** High performance alloy steel gears with impact free loading ensures long life and high accuracy performance.
- Single phase supply :** Power required for tool is readily available, single phase 230V - 50Hz.

Advantage v/s Impact Wrench :

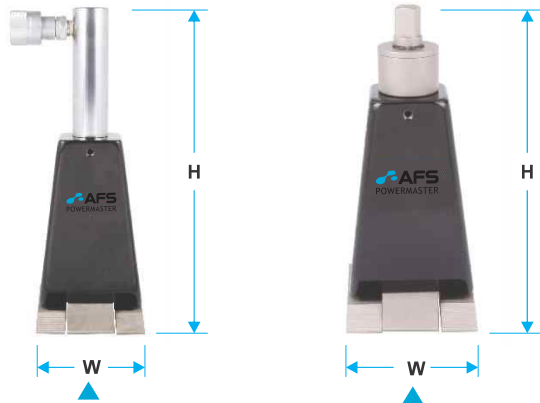
The ETW Series Advantage v/s Impact Wrench :

- No impact loading of fastener.
- No harmful noise pollution like generated during impact wrench operation.
- No fear of injury to operator even under continuous working while it is commonly prone with impact wrench due vibration and reaction impact on operator's wrist.
- Impact Wrench results un even loading on fastener resulting poor clamping of joint.

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FLANGE SPREADERS

One-Size-Fits-All



HS10K Hydraulic Model

MS10K Manual Model

Choose Manual or Hydraulic

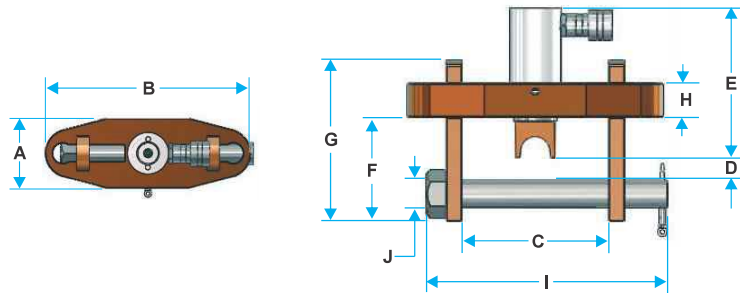
- Jaws open parallel.
- No drift. It stays where you place it.
- Easy one person operation.
- Universal. One-Size-Fits-All.
- 4535 Kg (10,000 lbs) applied force at tips.

With the Hydraulic Power-Spreader, **HS10K**, a hydraulic cylinder replaces the ratchet handle. A standard hand pump powers 1 Power-Spreader, or a pair, with ease. Again, you are supplied with 4535 kg (10,000 lbs) of force and 76.2 mm (3") of gap; ample for gasket replacement or turning of blinds. Using the manual Power-Spreader, **MS10K**, simply place the tips between the flange faces and turn the ratcheted handle. The ratcheting action is transformed into 4535 Kg (10,000 lbs.) of spreading force and creates up to 76.2 mm (3") of gap.

Model No.	Type	H	W	Access Gap	Stroke	Weight
		mm	mm	mm	inch	kg
HS-10K	Hydraulic	249	116	2.3	3	7.50
MS-10K	Manual	287	116	2.3	3	7.20

HYDRAULIC FLANGE SPREADERS

Hydraulic Flange Spreaders are used for safety opening pipe flanges. Available in capacities of 5 tonnes and 10 tonnes the versatility of both models enables the user to open flanges up to 92mm thick. Operated with a standard hydraulic hand pump and connecting hose and supplied in a handy steel storage case, Hydraulic Flange Spreaders can be operated individually, or as a pair when opening large diameter flanges. With Hydraulic Flange Spreaders it takes minutes open the toughest flanges without the risks of sparks caused by hammer blows and chisels.



(All Dimensions in MM)

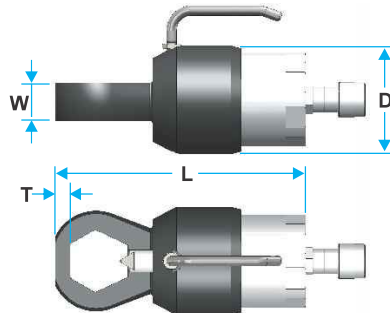
Model No.	A	B	C		D	E	F	G	H	I	J
			min	max							
FS-50	77	210	61	157	10	192	69	131	25	205	18
FS-100	110	290	61	226	30	165	89	180	38	274	31

Model No.	Capacity	Stroke	Oil Capacity	Max. Flange Thickness	Flange Diameter	Stud Size	Standard Wedge	Optional Wedge
	tonnes	mm	cm ³	mm	mm(inch)	mm	mm	mm
FS-50	5	39	25	2 x 58	1150mm(45")	19 - 29	3 - 29	30 - 56
FS-100	10	55	78	2 x 93	1900mm(75")	32 - 41	3 - 29	30 - 56

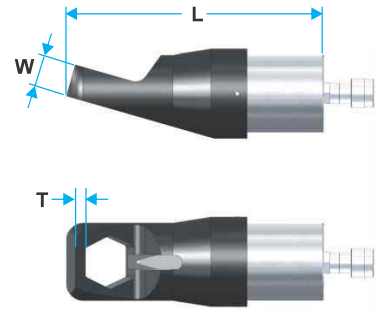
* Please ensure all parts & model numbers are prefixed with AFS when ordering

POWER SPLITTERS

For Removing Frozen Nuts The Right Way



Standard Series



Angle-Head Series

Features :

- No spark or flame. No risk to volatile surrounding.
- Triangular Chisel providing three cutting edges.
- Light and compact design for ease of operation and handling.
- Dedicated cylinder with minimal stroke for faster operation.
- Rear end connection for ease of handling and safe-connection.
- Laser marked for easy setting. No separate spacer for each Nut.
- 700 bar working pressure.
- Calibrated system. No damage to stud / bolt threads.



Model No.	Stud Size		Nut A/F Size		Load Ton	L Max. mm	D mm	T mm	W mm	Weight Kg.
	mm	inch	mm	inch						
NS-012AH*	6 - 12	1/4 - 1/2	7 - 22	1/4 - 7/8	5	135	45	7	19	1.4
NS-100AH*	11 - 16	7/10 - 5/8	13 - 24	1/2 - 1	10	196	73	9	19.5	3.4
NS-105	11 - 22	7/16 - 7/8	16 - 36	5/8 - 1.7/16	25	256	106	13.5	36	9.6
NS-200	22 - 32	7/8 - 1.1/4	36 - 51	1.7/16 - 2	25	256	108	14.5	38	10
NS-204	32 - 38	1.1/4 - 1.1/2	46 - 60	1.13/16 - 2.3/8	50	329	154	18.2	50	25
NS-210	35 - 45	1.3/8 - 1.3/4	57 - 70	2.1/4 - 2.3/4	50	357	154	20	51	26.5
NS-308	45 - 57	1.3/4 - 2.1/4	70 - 89	2.3/4 - 3.1/2	100	395	200	21	74	49.5
NS-314	50 - 64	2 - 2.1/2	79 - 88	3.1/8 - 3.7/8	100	496	202	23	78	52.5
NS-404	64 - 70	2.1/2 - 2.3/4	95 - 108	3.3/4 - 4.1/4	150	450	246	32	89.5	81.5
NS-500	76 - 83	3 - 3.1/4	114 - 127	4.1/2 - 5	150	456	250	32	98	87.5
NS-506	83 - 89	3.1/4 - 3.1/2	124 - 136	4.7/8 - 5.3/8	150	470	250	40	105	93.5

* Angle Head.

Power-splitters can be used / supplied with a variety of Hand-pumps, Electric-Pumps or Air-Operated Pumps.

HAND PUMP

This hand pump is specially designed for Splitter applications. The pump is compact and light in weight with longer handle needing very little effort to generate max working load.

Model No.	Max Pressure	Flow Rate	Type	Oil Tank Cap.	Size
	bar	cc		liters	cm
PM-HP10-1	700	2.8	Single Stage	1.8	56 x 16 x 19
PM-HP10-2	700	2.8	Single Stage	2.2	71 x 16 x 20
PM-HP14-2	950	2.8	Single Stage	2.2	71 x 18 x 20
PM-HP10-3D	700	49/2.8	Double Stage	3.0	50 x 18 x 35
PM-HP10-5D	700	49/2.8	Double Stage	5.0	50 x 18 x 35



*** Please ensure all parts & model numbers are prefixed with AFS when ordering**

TORQUE MULTIPLIERS

Handtorque - Standard Series



Features :

- Accuracy better than $\pm 4\%$.
- Precision tightening and loosening of all heavy duty fasteners.
- Low energy input with high torque transfer.
- Higher capacity multipliers are furnished with strong ratchets (Anti-wind up mechanism) allowing jobs to be performed easily, efficiently, and safely.
- Precision Manufacturing ensures long life and premier quality.
- A groove on output Square breaks if over loaded in excess of 20% of its capacity.
- Highest possible load factor is guaranteed due to design and use of forged components.

HEAVY DUTY INDUSTRIAL IMPACT WRENCHES

Features / Benefits:

- Heavy Duty for toughest applications.
- Highest torque output to weight ratio in industry.
- Available Twin Hammer or Pin Clutch Mechanisms for maximum versatility.
- Minimum Noise and Vibration.
- Available in 3/4", 1" and 1.1/2" square drives.
- Uses standard air supply.



TIW - 16



TIW - 27



TIW - 48



TIW - 76

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TUBE AND PIPE BEVELLING MACHINES

GENERAL INFORMATION

The all new range of AFS POWERMASTER beveling machines delivers maximum power and performance for fast, accurate weld preps on pipes and tubes ranging from 1/2" ID. up 24" OD. (12.7mm - 609.6mm) depending on all model and configuration. Facing, beveling and counter boring preparations are possible on all machinable alloys including stainless steel,

duplex, super duplex, inconel and other alloys. Seal and strength weld removal applications for heat exchangers and boilers are the primary focus of our machining technology. The rugged design features a self accepting torque system with self centering inner clamping which allows one skilled operator to make end preps quickly and safely, avoiding the

slow hazardous process of grinding. The in-house manufactured pneumatic drives are resilient and powerful. The carefully selected quality bearings ensure great support to the drive shafts, right angle gear assembly and cutter head. This provides rigidity and unparalleled stability.



TUBE / PIPE BEVELLING AND CUTTING SPLIT FRAME MACHINES

GENERAL INFORMATION

AFS POWERMASTER split frame machines perform precision pipe cutting, bevelling, facing and I.D. boring operations over the range of 2" - 60" OD. pipes in all machinable alloys including stainless steel, duplex, super duplex, inconel and many other alloys. These portable split frame machines are capable of working on a wide range of wall thicknesses. Also the design allows the machine to be split into two halves and then to be mounted on the pipe which is going to be worked on. The construction comprises of a steel mobile ring gear resting on the solid bearing mounted on the light weight aluminum fixed ring, ensuring extreme strength and durability. The rugged construction of the machine and powerful drives provides the necessary rigidity and stability.



AFS TECHNOLOGIES
HOWEMOSS DRIVE
KIRKHILL INDUSTRIAL ESTATE
DYCE
ABERDEEN
AB21 0GL

Phone : 0044 (0) 1224 973900

Web: www.afst.uk.com Email: sales@afst.uk.com

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