



# WREN Hydraulics Bolt Tightening Specialist



W224



Hergestellt nach / Manufactured according to



ID: 01 100 085695

**Survive by quality  
Develop by product**



**Office Building**

**Office Building**

**Office Building**

**Main Workshop**

**Supporting Workshop  
of Producing**

**Heat Treatment  
Supporting Workshop**

**Dormitory Building**



# Introduction

**WREN, established in 1992, is one of the most professional manufacturers of high pressure hydraulic(70-350Mpa) tools. WREN is working on developing the highest quality industrial bolting system, making industrial bolting safer and simpler.**

**WREN focuses on high level quality and safety, make its own design of hydraulic torque wrenches, pumps, hydraulic cylinders, bolt-tensioners, which are widely used in steel, shipbuilding, power station, petroleum, chemical and other engineering industries. WREN also has distributors in North America, South East Asia, Europe, South Africa, Korea, Australia. Besides hydraulic torque wrenches, Wren is also able to manufacture other products to meet all customer's requirements.**



CNC workshop



3400M<sup>2</sup> Warehouse



Worldwide Distributors



CE certificate / ISO9001:2008 Quality System / Excellent Supplier Qualification



# Catalog

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WREN company has passed the German Rhine (TUV) quality certification

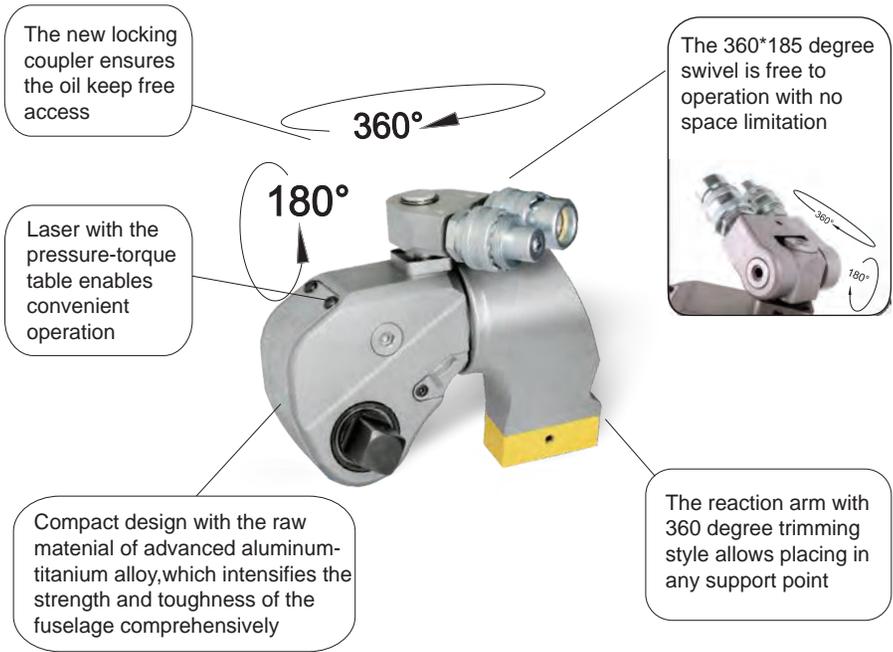


WREN company has passed the Alibaba depth certification in 2010



WREN has got the CE certificate in 2012





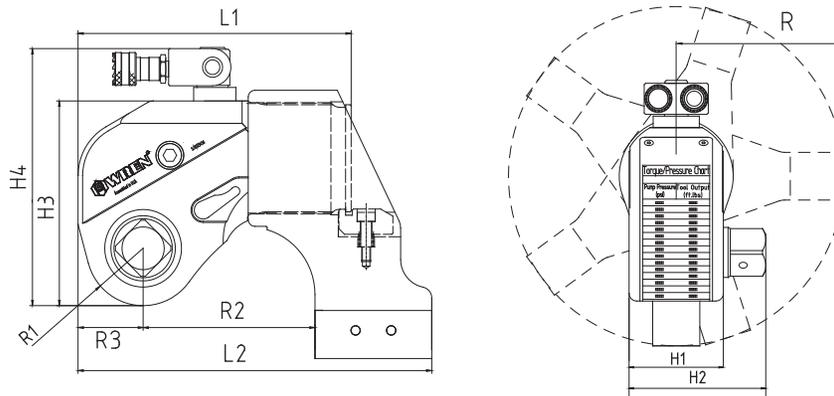
-700bar Max working pessusre and the accuracy keep within  $\pm 3\%$

-All together 12 models with the range from 112~98900N.m, which covers the most bolts size, and be the most comperehensive available in the market

-The square drive operate with the high intense socket and suitable with large range of bolts

TYPE	07IBT	11BT	31BT	51BT	81BT	101BT	151BT	201BT	251BT	351BT	501BT	601BT
<b>Torque (N.m)</b>	112-1120	179-1795	451-4512	752-7528	1078-10780	1551-15516	2041-20418	2666-26664	3472-34725	4866-48666	7200-72000	9890-98900
<b>Bolt Size (M)</b>	14~30	16~36	22~48	27~56	30~64	36~72	39~80	42~90	48~100	64~120	72~125	80~130
<b>Weight (kg)</b>	1.8	2.5	5	8	11	15	23	26.5	35	50	87	120
<b>Square Drive</b>	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"	2-1/2"	3-1/2"



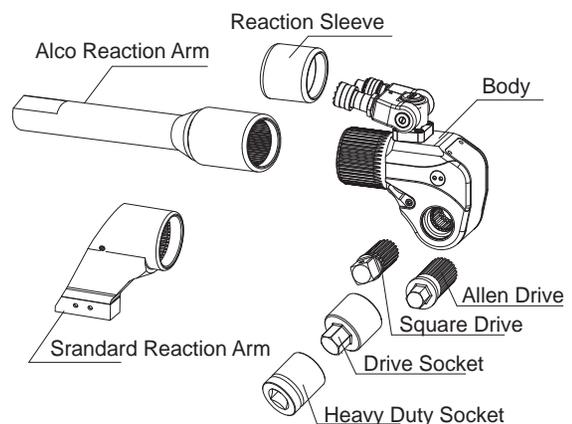


IBT Dimension Chart (mm)

TYPE	L1	L2	H1	H2	H3	H4	R	R1	R2	R3
07IBT	110.8	139.3	42	65.8	76.2	108.1	75	20.5	68.8	25
1IBT	144	174	50	72	95.5	131	91.5	26	85.5	29
3IBT	178	229	68	95	127	176.5	123.5	34	114	40
5IBT	210.5	270.5	80	123	149	199	140	39	138	46.5
8IBT	222	295	90	134	167	217	165	47	155	47
10IBT	245.5	318.8	100	142	182	232	178	51	155.3	58.5
15IBT	292.8	361.3	112	167.4	206	252.4	188.5	56	177.7	67.1
20IBT	307.5	384.3	120	183	220	270	213	59	186	71
25IBT	323	402	137	200	247	297	228	66	199.8	72
35IBT	372.5	496.5	153	216	282	332	243.5	77	241.4	89.5
50IBT	400	516	160	223	290.5	341	258	81	258.5	97.5
60IBT	453.3	573.4	180	256	336	386.6	279	95	284.9	114.5

**ACCESSORY:**

For Special Reaction Arm, consult to WREN!



The reaction pawl officially overcome the possibility of ratchet reversing opposite; enhance the efficiency and precision of torque

360\*185 degree swivel or 360\*360 degree swivel allow the wrench free to operation with no space limitation

-700bar max working pressure;keep the accuracy±3%

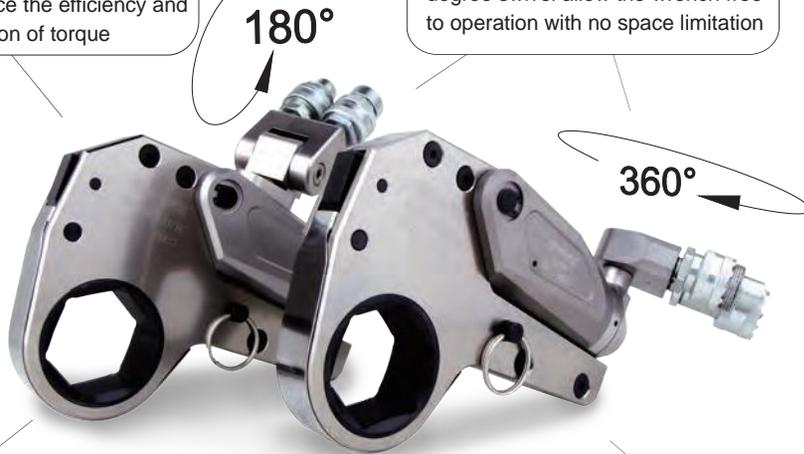
-6 models with the range from 232~44593N.m

-Compact design with the raw material of advanced aluminum-titanium alloy, high intense

-The new locking coupler ensures the oil keep free access

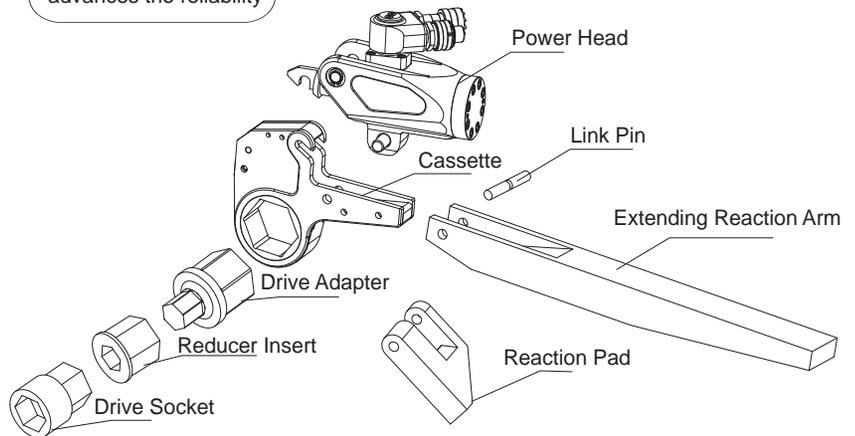
More accuracy and easier when the wrench direct operate on the nuts

Compact design with longer arm fully advances the reliability



### Accessory:

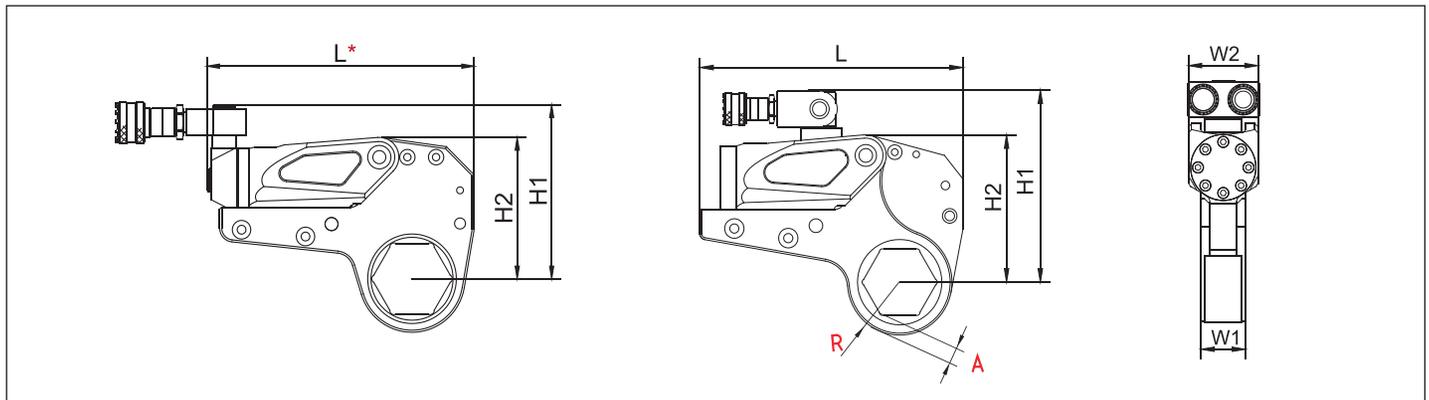
Reaction Pad	
Extending Reaction Arm	



### LOW Paramete Chart

TYPE	Torque	Nut Sizes mm	Power Head Weight kg	Cassette Weight kg	L	L*	Sizes (mm)			
	N.m						H1	H2	W1	W2
<b>2LOW</b>	232~2328	19~55	1	1.6	186.1	195.4	125.9	102.3	32	51
	241~2414	60	1	1.7	186.1	195.4	128.5	105	32	51
<b>4LOW</b>	585~2510	34~36	2	4.4	241	258	177	135.7	42	66
	585~5021	41	2	4.4	241	258	177	135.7	42	66
	585~5858	46~65	2	4.6	245	262	187	145.7	42	66
	647~6474	70~80	2	4.6	246	263	187	145.7	42	66
<b>8LOW</b>	1094~10941	41~95	3.3	8	294	304	207	169	53	83
	1177~11774	100~105	3.3	8.4	301	311	216	178	53	83
<b>14LOW</b>	1852~18521	50~117	5.5	11.6	361		239	204	64	99
<b>18LOW</b>	2601~26011	75~135	6	12.8	364.3		268.7	230.7	70	111
<b>30LOW</b>	4188~41882	110~155	11.4	29	430		303	272	85	131
	4459~44593	160~175	11.4	30	441		315	285	85	131

**LOW Dimension Drawing**



**LOW Series Hexagon Cassette Selection Chart**

2LOW				4LOW				8LOW			
TYPE	R (mm)	A (mm)	Max Torque N.m	TYPE	R (mm)	A (mm)	Max Torque N.m	TYPE	R (mm)	A (mm)	Max Torque N.m
2LOW-19	27	16	2328	4LOW-34	36	16	2510	8LOW-41	46	22	10941
2LOW-22	27	14	2328	4LOW-36	36	15	2510	8LOW-46	46	19	10941
2LOW-27	27	11	2328	4LOW-41	39	15	5021	8LOW-50	46	17	10941
2LOW-30	29	12	2328	4LOW-46	42	15	5858	8LOW-55	50	18	10941
2LOW-32	29	11	2328	4LOW-50	44	15	5858	8LOW-60	52	17	10941
2LOW-34	31	11	2328	4LOW-55	46	14	5858	8LOW-65	55	17	10941
2LOW-36	31	10	2328	4LOW-60	50	15	5858	8LOW-70	58	17	10941
2LOW-41	34	10	2328	4LOW-65	53	15	5858	8LOW-75	60	17	10941
2LOW-46	37	10	2328	4LOW-70	56	15	6474	8LOW-80	63	16	10941
2LOW-50	40	11	2328	4LOW-75	59	15	6474	8LOW-85	66	16	10941
2LOW-55	43	11	2328	4LOW-80	61	15	6474	8LOW-90	69	17	10941
2LOW-60	46	11	2414					8LOW-95	71	16	10941
								8LOW-100	75	17	11774
								8LOW-105	78	17	11774

WREN can be customized according to customer requirements of special types of cassette

**Industrial Applications:**



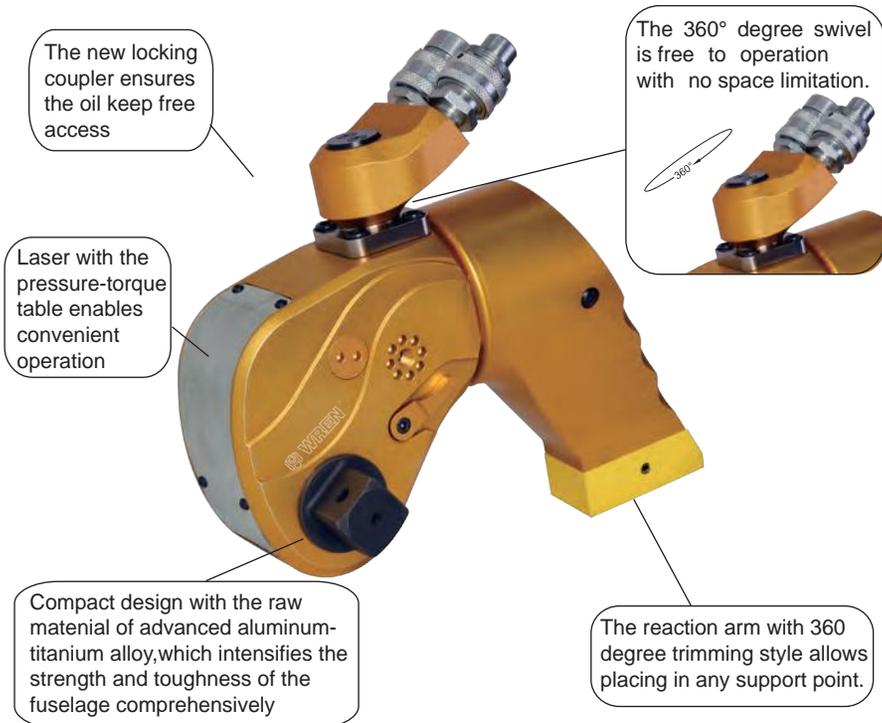
## LOW Series Hexagon Cassette Selection Chart

14LOW				18LOW				30LOW			
TYPE	R (mm)	A (mm)	Max Torque N.m	TYPE	R (mm)	A (mm)	Max Torque N.m	TYPE	R (mm)	A (mm)	Max Torque N.m
14LOW-50	60	31	18521	18LOW-75	65	22	26011	30LOW-85	78	28	41882
14LOW-55	60	28	18521	18LOW-80	68	22	26011	30LOW-90	78	27	41882
14LOW-60	60	25	18521	18LOW-85	71	22	26011	30LOW-95	83	28	41882
14LOW-65	60	22	18521	18LOW-90	74	22	26011	30LOW-100	83	25	41882
14LOW-70	60	19	18521	18LOW-95	77	22	26011	30LOW-105	89	28	41882
14LOW-75	63	19	18521	18LOW-100	80	22	26011	30LOW-110	89	25	41882
14LOW-80	66	19	18521	18LOW-105	84	23	26011	30LOW-115	95	28	41882
14LOW-85	69	19	18521	18LOW-110	87	23	26011	30LOW-117	95	27	41882
14LOW-90	72	20	18521	18LOW-115	89	23	26011	30LOW-120	95	25	41882
14LOW-95	74	19	18521	18LOW-120	92	23	26011	30LOW-125	101	29	41882
14LOW-100	77	19	18521	18LOW-125	95	23	26011	30LOW-130	101	26	41882
14LOW-105	80	19	18521	18LOW-130	98	23	26011	30LOW-135	104	26	41882
14LOW-110	83	19	18521	18LOW-135	101	23	26011	30LOW-140	110	29	41882
14LOW-115	87	20	18521					30LOW-145	110	26	41882
14LOW-117	87	19	18521					30LOW-150	116	29	41882
								30LOW-155	116	26	41882
								30LOW-160	128	36	44593
								30LOW-165	128	33	44593
								30LOW-170	128	30	44593
								30LOW-175	128	27	44593

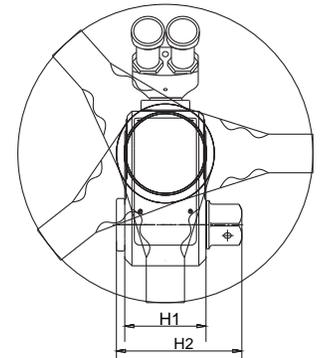
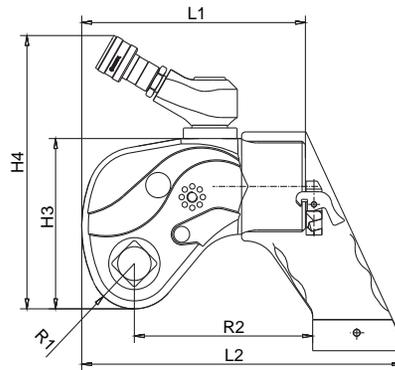
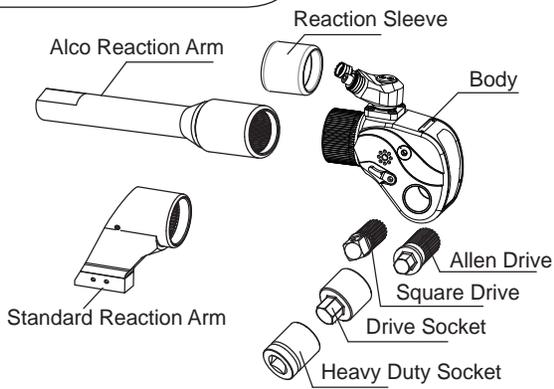
WREN can be customized according to customer requirements of special types of cassette

### Industrial Applications:





- 70Mpa Max working pressure and the accuracy keep within  $\pm 3\%$
- All together 6 models with the range from 183N.m to 26000N.m, which covers the most bolts size, and be the most comprehensive available in the market.
- The square drive operate with the high intense socket and suitable with large range of bolts



## ATW Series Selection Chart

TYPE	1ATW	3ATW	5ATW	8ATW	10ATW	20ATW
Torque (N.m)	183~1837	455~4553	758~7580	1096~10952	1456~14560	2611~26000
Bolt size (M)	16~36	22~48	27~56	30~64	36~72	42~90
Weight Kg	2.5	5	8	11	15	26.5
L1	136	170	204	220	241	303
L2	186	244	285	313	350	450
H1	50	68	80	90	103	120
H2	72	105	132	142	155	189
H3	96	128	152	167	184	222
H4	131	206	230	244	261	300
R1	26	34	41	47	51	61
R2	99	136	150	175	179	255
Square Drive	3/4"	1"	1-1/2"	1-1/2"	1-1/2"	2-1/2"

The reaction pawl officially overcome the possibility of ratchet reversing opposite; enhance the efficiency and torque accuracy

Radial power head can be changed into axial power head, adapt to different conditions

- 700bar max working pressure; keep the accuracy  $\pm 3\%$
- 6 models with the range from 225~101622N.m
- 360\*185 degree swivel allow the wrench free to operation with no space limitation
- Compact design with the raw material of advanced aluminum-titanium alloy, high intense
- The new locking coupler ensures the oil keep free access

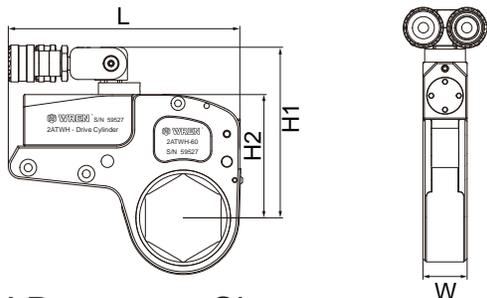
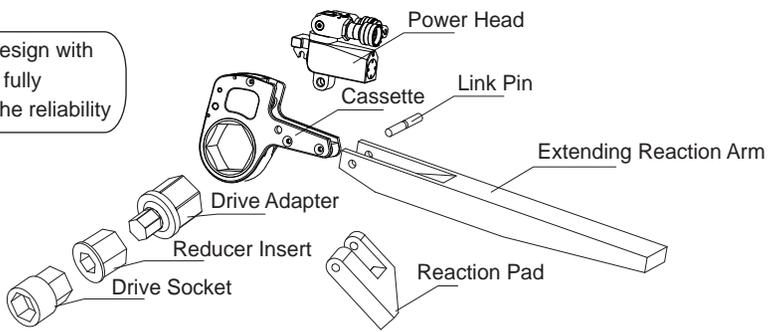


More accuracy and easier when the wrench direct operate on the nuts

Compact design with longer arm fully advances the reliability

**Accessory:**

Reaction Pad	
Extending Reaction Arm	

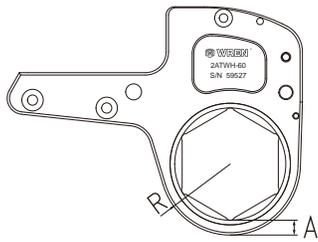


**ATWH Parameter Chart**

TYPE	Torque (N.m)	Nut Sizes (mm)	Power Head Weight (kg)	Cassette Weight (kg)	Sizes (mm)			
					L	H1	H2	W
<b>08ATWH</b> (customized)	113~1128	30~36	0.7	0.8	150	115	77	26
<b>2ATWH</b>	223~2238	19~55	0.9	1.5	186	132	95	32
	232~2321	60			186	135	98	32
<b>3ATWH</b> (customized)	440~4400	34~65	1.3	2.6	238	173	124	38
<b>4ATWH</b>	552~5526	34~65	1.6	3.4	251	176	127	42
	610~6108	70~80			256	186	137	42
<b>8ATWH</b>	1044~10440	41~95	3.1	6.3	291~296	211	154	53
	1123~11235	100~105			297	220	163	53
<b>14ATWH</b>	1852~18521	50~117	4.8	11.4	378	252	200	64
<b>18ATWH</b>	2601 ~26011	75~135	6	12.8	385.9	264.8	217.8	70.3
<b>30ATWH</b>	4188~41882	85~155	10.5	20.5	460	300	253	85
	4459~44593	160~175			460	313	266	85
<b>45ATWH</b> (customized)	6716~67162	145~190	32	56	569	350	308	102
<b>60ATWH</b>	9250~92500	145~230	36.4	71.5	590	380	338	120
	10162~101622							



Every model of ATWH power head covers a complete set of hexagon cassette, combines all the bolt size within its torque range. When choosing the correct hexagon cassette, ensure the distance between bolt and equipment partition must be larger than the distance of "A". Pay attention that there is enough space between bolts. The "A" and "R" in below table will be helpful.



### Reducer

Reducer work together with the ATWH Ratchet link. One single Ratchet link is suitable for many bolts sizes. (by the reducer, please contact WREN engineer)



## ATWH series Hexagon Cassette Selection Chart

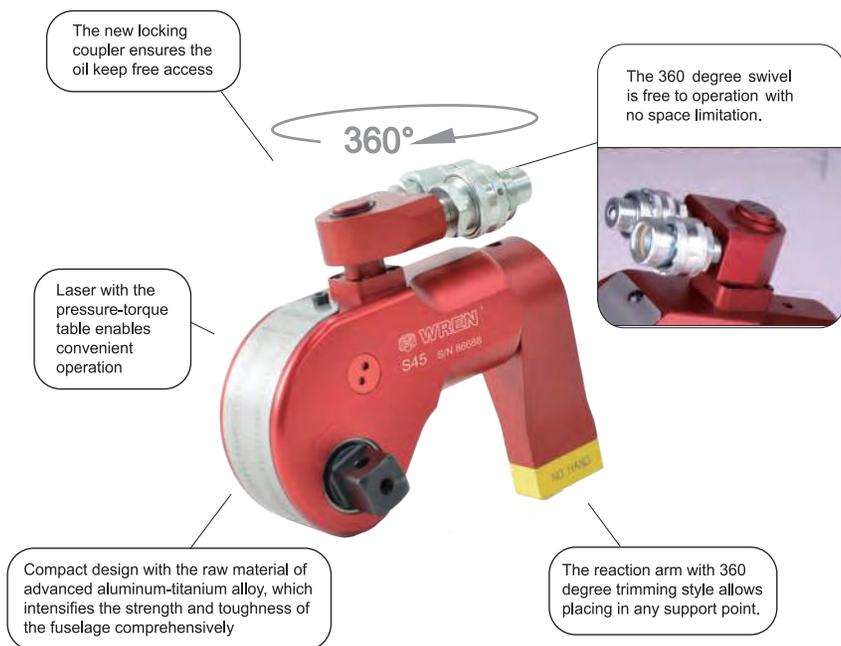
08ATWH (customized)				2ATWH				3ATWH (customized)				4ATWH			
TYPE	R (mm)	A (mm)	Max Torque N.m	TYPE	R (mm)	A (mm)	Max Torque N.m	TYPE	R (mm)	A (mm)	Max Torque N.m	TYPE	R (mm)	A (mm)	Max Torque N.m
08ATWH-30	26	8	1128	2ATWH-19	27	16	2238	3ATWH-34	34	14	4400	4ATWH-34	36	16	2368
08ATWH-36	29	8	1128	2ATWH-22	27	14	2238	3ATWH-36	34	13	4400	4ATWH-36	36	15	2368
				2ATWH-27	27	11	2238	3ATWH-41	35	13	4400	4ATWH-41	39	15	5526
				2ATWH-30	29	12	2238	3ATWH-46	40	13	4400	4ATWH-46	42	15	5526
				2ATWH-32	29	11	2238	3ATWH-50	42	13	4400	4ATWH-50	44	15	5526
				2ATWH-34	31	11	2238	3ATWH-55	44	12	4400	4ATWH-55	46	14	5526
				2ATWH-36	31	10	2238	3ATWH-60	48	13	4400	4ATWH-60	50	15	5526
				2ATWH-41	34	10	2238	3ATWH-65	51	13	4400	4ATWH-65	53	15	5526
				2ATWH-46	37	10	2238	3ATWH-70	54	13	4400	4ATWH-70	56	15	6108
				2ATWH-50	40	11	2238	3ATWH-75	57	13	4400	4ATWH-75	59	15	6108
				2ATWH-55	43	11	2238	3ATWH-80	59	13	4400	4ATWH-80	61	15	6108
				2ATWH-60	46	11	2321								

WREN can be customized according to customer requirements of special types of cassette.

## ATWH series Hexagon Cassette Selection Chart

8ATWH				14ATWH				18ATWH			
TYPE	R (mm)	A (mm)	Max Torque N.m	TYPE	R (mm)	A (mm)	Max Torque N.m	TYPE	R (mm)	A (mm)	Max Torque N.m
8ATWH-41	46	22	10440	14ATWH-50	60	31	18521	18ATWH-75	65	22	26011
8ATWH-46	46	19	10440	14ATWH-55	60	28	18521	18ATWH-80	68	22	26011
8ATWH-50	46	17	10440	14ATWH-60	60	25	18521	18ATWH-85	71	22	26011
8ATWH-55	50	18	10440	14ATWH-65	60	22	18521	18ATWH-90	74	22	26011
8ATWH-60	52	17	10440	14ATWH-70	60	19	18521	18ATWH-95	77	22	26011
8ATWH-65	55	17	10440	14ATWH-75	63	19	18521	18ATWH-100	80	22	26011
8ATWH-70	58	17	10440	14ATWH-80	66	19	18521	18ATWH-105	84	23	26011
8ATWH-75	60	17	10440	14ATWH-85	69	19	18521	18ATWH-110	87	23	26011
8ATWH-80	63	16	10440	14ATWH-90	72	20	18521	18ATWH-115	89	23	26011
8ATWH-85	66	16	10440	14ATWH-95	74	19	18521	18ATWH-120	92	23	26011
8ATWH-90	69	17	10440	14ATWH-100	77	19	18521	18ATWH-125	95	23	26011
8ATWH-95	71	16	10440	14ATWH-105	80	19	18521	18ATWH-130	98	23	26011
8ATWH-100	75	17	11235	14ATWH-110	83	19	18521	18ATWH-135	101	23	26011
8ATWH-105	78	17	11235	14ATWH-115	87	20	18521				
				14ATWH-117	87	19	18521				

30ATWH				45ATWH <sub>(customized)</sub>				60ATWH			
TYPE	R (mm)	A (mm)	Max Torque N.m	TYPE	R (mm)	A (mm)	Max Torque N.m	TYPE	R (mm)	A (mm)	Max Torque N.m
30ATWH-85	78	28	41882	45ATWH-145	117	33	67162	60ATWH-145	123	38	92500
30ATWH-90	78	27	41882	45ATWH-150	121	33	67162	60ATWH-150	126	38	92500
30ATWH-95	83	28	41882	45ATWH-155	124	33	67162	60ATWH-155	129	38	92500
30ATWH-100	83	25	41882	45ATWH-160	127	33	67162	60ATWH-160	132	38	92500
30ATWH-105	89	28	41882	45ATWH-165	130	33	67162	60ATWH-165	134	38	92500
30ATWH-110	89	25	41882	45ATWH-170	133	33	67162	60ATWH-170	137	38	92500
30ATWH-115	95	28	41882	45ATWH-175	136	33	67162	60ATWH-175	140	38	92500
30ATWH-117	95	27	41882	45ATWH-180	139	33	67162	60ATWH-180	143	38	92500
30ATWH-120	95	25	41882	45ATWH-185	142	33	67162	60ATWH-185	146	38	92500
30ATWH-125	101	29	41882	45ATWH-190	145	33	67162	60ATWH-190	149	38	92500
30ATWH-130	101	26	41882					60ATWH-195	152	38	92500
30ATWH-135	104	26	41882					60ATWH-200	154	38	92500
30ATWH-140	110	29	41882					60ATWH-230	173	40	101622
30ATWH-145	110	26	41882								
30ATWH-150	116	29	41882								
30ATWH-155	116	26	41882								
30ATWH-160	128	36	44593								
30ATWH-165	128	33	44593								
30ATWH-170	128	30	44593								
30ATWH-175	128	27	44593								

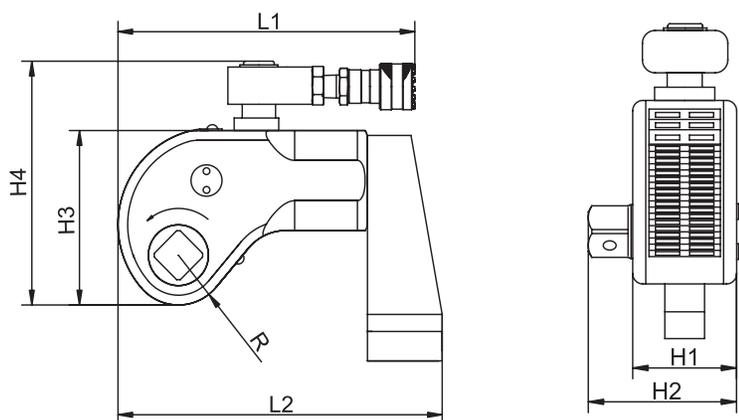


-700bar maximum working pressure;  
Repeat accuracy  $\pm 3\%$

-5 different model from 1727~36992N.m  
-Working with the high resistance sockets, above more size of screw

-High resistance with aluminum-titanium and light body

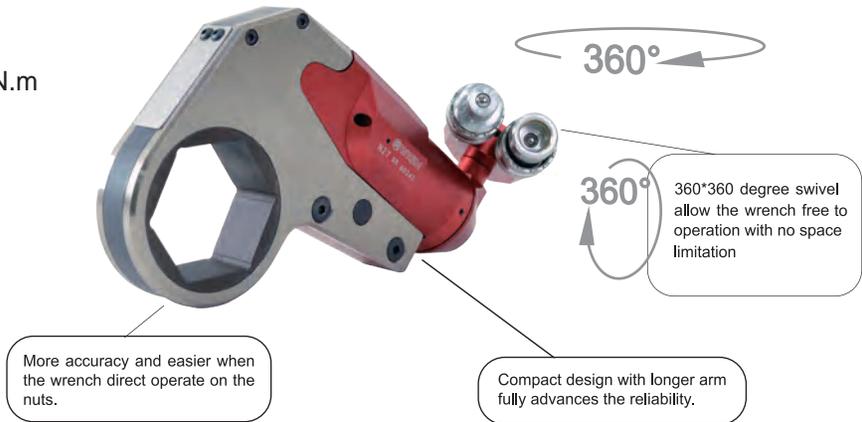
-Replaceable square drive adapters



S Series Technical Data

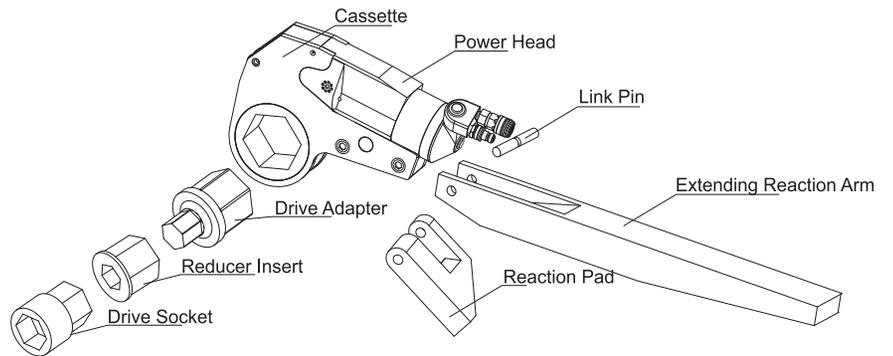
model	Torque (N.m)	Bolt size (M)	Square drive inches	Weight (Kg)	Sizes (mm)						
					L1	L2	H1	H2	H3	H4	R
<b>S17</b>	172~1727	16~36	3/4 "	2	129	167	51	73	90	131	25
<b>S45</b>	452~4529	22~48	1 "	4.6	167	218	68	98	121	170	34
<b>S100</b>	1006~10064	30~64	1 1/2 "	10	223	293	92	135	163	211	46
<b>S150</b>	1497~14974	36~72	1 1/2 "	14.8	264	323	100	141	177	225	50
<b>S370</b>	3699~36992	48~100	2 1/2 "	32.5	329	432	137	200	240	288	66

- 700bar maximum working pressure;  
Repeat accuracy  $\pm 3\%$
- 5 different model from 2625~48481N.m
- Low profile design to accessing limited areas
- Drivers and adaptors can be replaced easily



### Accessory:

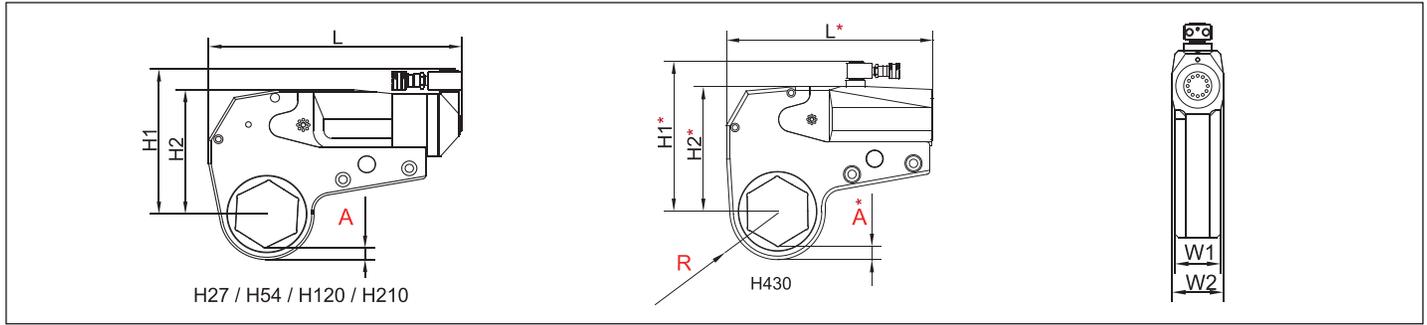
Reaction Pad	
Extending Reaction Arm	



### H Series Technical Data

model	Torque (N.m)	Bolt size (mm)	Weight (Kg)	Cassette Weight (Kg)	Sizes (mm)					
					L	H1	H2	W1	W2	A
<b>H27</b>	262~2625	19~46	0.9	Max 1.8KG	193	125	97	32	51	10~15
	306~3068	50~60			193	136	108	32	51	10~11
<b>H54</b>	537~5372	27~65	1.9	Max 3.8KG	250	158	125	41	64	11~19
	603~6037	70~80			250	169	136	41	64	11.7~12
<b>H120</b>	1173~11737	50~80	3.4	Max 8.4KG	310	189	157	52	78	15~15.2
	1434~14349	85~105			310	214	182	52	78	16~22
<b>H210</b>	2121~21216	70~100	5.9	Max 13.8KG	378	223	191	64	97	8~21
	2312~23124	105~120			378	236	204	64	97	18~24
<b>H430</b>	4379~43792	80~117	16.1	Max 30 KG	405 *	291 *	242 *	83	93	25~31 *
	4848~48481	120~175			425 *	309 *	260 *	83	93	25~34 *

## H Dimension Drawing



## Choice of Cassettes

H27				H54				H120				H210				H430			
Type	R	A	Max Torque	Type	R	A	Max Torque	Type	R	A	Max Torque	Type	R	A	Max Torque	Type	R	A	Max Torque
H27-19	26	15	2625	H54-27	36	19	5372	H120-50	44	15	11737	H210-70	59	18	21216	H430-80	72	25	43792
H27-22	26	14	2625	H54-30	35	17	5372	H120-55	47	15	11737	H210-75	62	18	21216	H430-85	78	28	43792
H27-27	26	11	2625	H54-32	35	16	5372	H120-60	50	15	11737	H210-80	65	18	21216	H430-90	78	25	43792
H27-30	28	11	2625	H54-34	35	15	5372	H120-65	53	15	11737	H210-85	68	18	21216	H430-95	84	28	43792
H27-32	28	10	2625	H54-36	35	14	5372	H120-70	56	15	11737	H210-90	71	18	21216	H430-100	84	26	43792
H27-34	31	11	2328	H54-41	35	11	5372	H120-75	58	15	11737	H210-95	74	18	21216	H430-105	90	28	43792
H27-36	31	10	2625	H54-46	37	11	5858	H120-80	61	15	11737	H210-100	77	18	21216	H430-110	90	26	43792
H27-41	34	10	2625	H54-50	41	12	5372	H120-85	66	16	14349	H210-105	79	18	23124	H430-115	94	28	43792
H27-46	37	10	2625	H54-55	44	12	5372	H120-90	69	16	14349	H210-110	82	18	23124	H430-117	94	26	43792
H27-50	40	11	3068	H54-60	47	12	5372	H120-95	71	16	14349	H210-115	87	21	23124	H430-120	101	31	48481
H27-55	42	11	3068	H54-65	50	12	5372	H120-100	77	19	14349	H210-120	87	17	23124	H430-125	101	28	48481
H27-60	45	10	3068	H54-70	52	12	6037	H120-105	77	16	14349					H430-130	101	25	48481
				H54-75	56	12	6037									H430-135	105	26	48481
				H54-80	58	12	6037									H430-140	110	29	48481
																H430-145	110	26	48481
																H430-150	115	29	48481
																H430-155	115	26	48481
																H430-160	121	29	48481
																H430-165	121	26	48481
																H430-170	128	30	48481
																H430-175	128	27	48481

WREN can be customized according to customer requirements of special types of cassette.

## Industrial Applications:



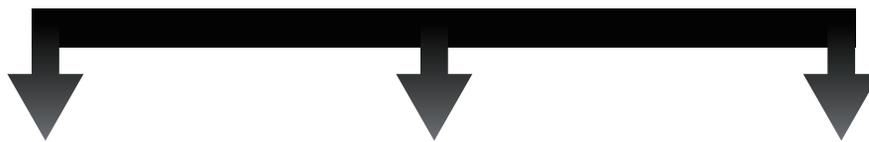
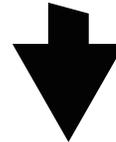
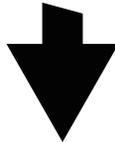
## ATW C SERIES HYDRAULIC WRENCH SYSTEM BENEFITS:

- Max operating pressure:10000psi(700bar)
- Slimline design--one piece piston construction
- Unique uni-swivel design at 360\*185
- All alloy steel construction
- Quickly interchangeable with ATWH Hexagon Casstte,ATW CR Ratchet Cassette,ATW CS closed Spanner & ATW CO Open Spanner by a Drive Cylinder
- Suitable for limited clearance applications such as Valves,BOP



DRIVE CYLINDER  
(360° x185° )

CARTRIDGE



CLOSED SPANNER

OPEN SPANNER

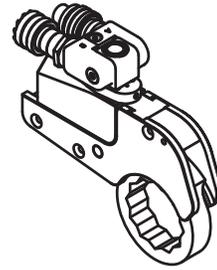
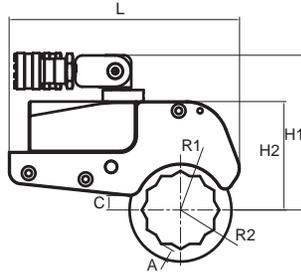
RATCHET CASSETTE



## Industrial Applications:



# ATW CS series Closed Spanner



## IMPERIAL

2ATW CS Colsed Spanner											
Model	Nut Size	Torque	Dimension (inch)								
	Imperial		Ft.lbs	A	R1	R2	C	H2	H1	W1	W2
2ATW CS 1.1/16"	1.1/16"	143~1438	0.25	1.46	0.86	0.49	3.46	4.94	0.77	1.26	7.44
2ATW CS 1.1/4"	1.1/4"		0.25	1.46	0.97	0.49	3.46	4.94	0.77	1.26	7.44
2ATW CS 1.7/16"	1.7/16"		0.25	1.46	1.08	0.49	3.46	4.94	0.77	1.26	7.44
2ATW CS 1.5/8"	1.5/8"		0.25	1.46	1.19	0.49	3.46	4.94	0.77	1.26	7.44
2ATW CS 1.13/16"	1.13/16"		0.25	1.46	1.30	0.49	3.46	4.94	0.77	1.26	7.44
2ATW CS 2"	2"		0.25	1.46	1.40	0.49	3.46	4.94	0.77	1.26	7.44
2ATW CS 2.3/16"	2.3/16"		0.25	1.46	1.51	0.49	3.46	4.94	0.77	1.26	7.44

4ATW CS Colsed Spanner											
Model	Nut Size	Torque	Dimension (inch)								
	Imperial		Ft.lbs	A	R1	R2	C	H2	H1	W1	W2
4ATW CS 1.5/8"	1.5/8"	372~3720	0.33	2.05	1.27	0.91	4.80	6.77	1.02	1.70	9.76
4ATW CS 1.13/16"	1.13/16"		0.33	2.05	1.38	0.91	4.80	6.77	1.02	1.70	9.76
4ATW CS 2"	2"		0.33	2.05	1.49	0.91	4.80	6.77	1.02	1.70	9.76
4ATW CS 2.3/16"	2.3/16"		0.33	2.05	1.59	0.91	4.80	6.77	1.02	1.70	9.76
4ATW CS 2.3/8"	2.3/8"		0.33	2.05	1.70	0.91	4.80	6.77	1.02	1.70	9.76
4ATW CS 2.9/16"	2.9/16"		0.33	2.05	1.81	0.91	4.80	6.77	1.02	1.70	9.76
4ATW CS 2.3/4"	2.3/4"		0.33	2.05	1.92	0.91	4.80	6.77	1.02	1.70	9.76
4ATW CS 2.15/16"	2.15/16"		0.33	2.05	2.03	0.91	4.80	6.77	1.02	1.70	9.76

8ATW CS Colsed Spanner											
Model	Nut Size	Torque	Dimension (inch)								
	Imperial		Ft.lbs	A	R1	R2	C	H2	H1	W1	W2
8ATW CS 2"	2"	678~6788	0.41	2.64	1.56	0.94	5.77	7.74	1.3	2.09	11.73
8ATW CS 2.3/16"	2.3/16"		0.41	2.64	1.67	0.94	5.77	7.74	1.3	2.09	11.73
8ATW CS 2.3/8"	2.3/8"		0.41	2.64	1.78	0.94	5.77	7.74	1.3	2.09	11.73
8ATW CS 2.9/16"	2.9/16"		0.41	2.64	1.89	0.94	5.77	7.74	1.3	2.09	11.73
8ATW CS 2.3/4"	2.3/4"		0.41	2.64	2.00	0.94	5.77	7.74	1.3	2.09	11.73
8ATW CS 2.15/16"	2.15/16"		0.41	2.64	2.11	0.94	5.77	7.74	1.3	2.09	11.73
8ATW CS 3.1/8"	3.1/8"		0.41	2.64	2.21	0.94	5.77	7.74	1.3	2.09	11.73
8ATW CS 3.5/16"	3.5/16"		0.41	2.64	2.35	0.94	5.77	7.74	1.3	2.09	11.73
8ATW CS 3.1/2"	3.1/2"	0.41	2.64	2.42	0.94	5.77	7.74	1.3	2.09	11.73	

14ATW CS Colsed Spanner											
Model	Nut Size	Torque	Dimension (inch)								
	Imperial		Ft.lbs	A	R1	R2	C	H2	H1	W1	W2
14ATW CS 2.3/4"	2.3/4"	1066~10664	0.50	3.15	2.09	1.1	6.92	8.89	1.53	2.52	14.53
14ATW CS 2.15/16"	2.15/16"		0.50	3.15	2.20	1.1	6.92	8.89	1.53	2.52	14.53
14ATW CS 3.1/8"	3.1/8"		0.50	3.15	2.30	1.1	6.92	8.89	1.53	2.52	14.53
14ATW CS 3.5/16"	3.5/16"		0.50	3.15	2.44	1.1	6.92	8.89	1.53	2.52	14.53
14ATW CS 3.1/2"	3.1/2"		0.50	3.15	2.52	1.1	6.92	8.89	1.53	2.52	14.53
14ATW CS 3.11/16"	3.11/16"		0.50	3.15	2.67	1.1	6.92	8.89	1.53	2.52	14.53
14ATW CS 3.7/8"	3.7/8"		0.50	3.15	2.74	1.1	6.92	8.89	1.53	2.52	14.53
14ATW CS 4.1/4"	4.1/4"		0.50	3.15	2.95	1.1	6.92	8.89	1.53	2.52	14.53
14ATW CS 4.3/8"	4.3/8"	0.50	3.15	3.05	1.1	6.92	8.89	1.53	2.52	14.53	

30ATW CS Colsed Spanner											
Model	Nut Size	Torque	Dimension (inch)								
	Imperial		Ft.lbs	A	R1	R2	C	H2	H1	W1	W2
30ATW CS 3.1/2"	3.1/2"	2616~26166	0.67	4.33	2.68	1.22	8.99	10.95	1.98	3.35	16.73
30ATW CS 3.7/8"	3.7/8"		0.67	4.33	2.90	1.22	8.99	10.95	1.98	3.35	16.73
30ATW CS 4.3/8"	4.3/8"		0.67	4.33	3.19	1.22	8.99	10.95	1.98	3.35	16.73
30ATW CS 4.5/8"	4.5/8"		0.67	4.33	3.38	1.22	8.99	10.95	1.98	3.35	16.73
30ATW CS 5.1/8"	5.1/8"		0.67	4.33	3.66	1.22	8.99	10.95	1.98	3.35	16.73
30ATW CS 5.3/8"	5.3/8"		0.67	4.33	3.77	1.22	8.99	10.95	1.98	3.35	16.73
30ATW CS 5.3/4"	5.3/4"		0.67	4.33	3.99	1.22	8.99	10.95	1.98	3.35	16.73

## METRIC

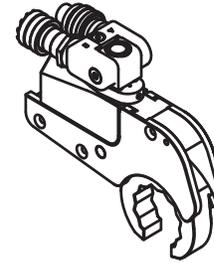
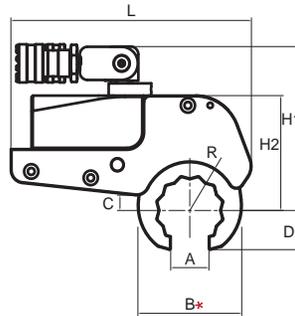
2ATW CS Colsed Spanner											
Model	Nut Size	Torque	Dimension (mm)								
	Metric		N.m	A	R1	R2	C	H2	H1	W1	W2
2ATW CS 27	27	194~1949	6	37	22	12	88	125	20	32	189
2ATW CS 32	32		6	37	25	12	88	125	20	32	189
2ATW CS 36	36		6	37	27	12	88	125	20	32	189
2ATW CS 41	41		6	37	30	12	88	125	20	32	189
2ATW CS 46	46		6	37	33	12	88	125	20	32	189
2ATW CS 50	50		6	37	36	12	88	125	20	32	189
2ATW CS 55	55		6	37	38	12	88	125	20	32	189

4ATW CS Colsed Spanner											
Model	Nut Size	Torque	Dimension (mm)								
	Metric		N.m	A	R1	R2	C	H2	H1	W1	W2
4ATW CS 41	41	504~5044	8	52	32	23	122	172	26	43	248
4ATW CS 46	46		8	52	35	23	122	172	26	43	248
4ATW CS 50	50		8	52	38	23	122	172	26	43	248
4ATW CS 55	55		8	52	40	23	122	172	26	43	248
4ATW CS 60	60		8	52	43	23	122	172	26	43	248
4ATW CS 65	65		8	52	46	23	122	172	26	43	248
4ATW CS 70	70		8	52	49	23	122	172	26	43	248
4ATW CS 75	75		8	52	52	23	122	172	26	43	248

8ATW CS Colsed Spanner											
Model	Nut Size	Torque	Dimension (mm)								
	Metric		N.m	A	R1	R2	C	H2	H1	W1	W2
8ATW CS 50	50	919~9204	10	67	40	24	147	197	33	53	298
8ATW CS 55	55		10	67	42	24	147	197	33	53	298
8ATW CS 60	60		10	67	45	24	147	197	33	53	298
8ATW CS 65	65		10	67	48	24	147	197	33	53	298
8ATW CS 70	70		10	67	51	24	147	197	33	53	298
8ATW CS 75	75		10	67	54	24	147	197	33	53	298
8ATW CS 80	80		10	67	56	24	147	197	33	53	298
8ATW CS 85	85		10	67	60	24	147	197	33	53	298
8ATW CS 90	90	10	67	61	24	147	197	33	53	298	

14ATW CS Colsed Spanner											
Model	Nut Size	Torque	Dimension (mm)								
	Metric		N.m	A	R1	R2	C	H2	H1	W1	W2
14ATW CS 70	70	1616~16160	13	80	53	28	176	226	39	64	369
14ATW CS 75	75		13	80	56	28	176	226	39	64	369
14ATW CS 80	80		13	80	58	28	176	226	39	64	369
14ATW CS 85	85		13	80	62	28	176	226	39	64	369
14ATW CS 90	90		13	80	64	28	176	226	39	64	369
14ATW CS 95	95		13	80	68	28	176	226	39	64	369
14ATW CS 100	100		13	80	70	28	176	226	39	64	369
14ATW CS 105	105		13	80	75	28	176	226	39	64	369
14ATW CS 110	110	13	80	77	28	176	226	39	64	369	

30ATW CS Colsed Spanner											
Model	Nut Size	Torque	Dimension (mm)								
	Metric		N.m	A	R1	R2	C	H2	H1	W1	W2
30ATW CS 90	90	3547~35481	17	110	68	31	228	278	50	85	425
30ATW CS 100	100		17	110	74	31	228	278	50	85	425
30ATW CS 110	110		17	110	81	31	228	278	50	85	425
30ATW CS 115	115		17	110	86	31	228	278	50	85	425
30ATW CS 130	130		17	110	93	31	228	278	50	85	425
30ATW CS 135	135		17	110	96	31	228	278	50	85	425
30ATW CS 145	145		17	110	101	31	228	278	50	85	425



Remark: Date "B" is not confirmed, it will depend upon the customers application and confirmed final torque value.

## IMPERIAL

2ATW CO Open Spanner										
Model	Nut Size	Dimension (inch)								
	Imperial	A	B	C	D	R	H2	H1	W1	W2
2ATW CO 1.1/16"	1.1/16"	0.79	1.83	0.49	0.51	1.46	3.46	4.94	0.77	1.26
2ATW CO 1.1/4"	1.1/4"	0.87	2.36	0.49	0.67	1.46	3.46	4.94	0.77	1.26
2ATW CO 1.7/16"	1.7/16"	1.00	2.66	0.49	0.79	1.46	3.46	4.94	0.77	1.26
2ATW CO 1.5/8"	1.5/8"	1.10	3.05	0.49	0.95	1.46	3.46	4.94	0.77	1.26
2ATW CO 1.13/16"	1.13/16"	1.22	3.27	0.49	1.06	1.46	3.46	4.94	0.77	1.26
2ATW CO 2"	2"	1.34	3.46	0.49	1.22	1.46	3.46	4.94	0.77	1.26
2ATW CO 2.3/16"	2.3/16"	1.44	3.68	0.49	1.34	1.46	3.46	4.94	0.77	1.26

4ATW CO Open Spanner										
Model	Nut Size	Dimension (inch)								
	Imperial	A	B	C	D	R	H2	H1	W1	W2
4ATW CO 1.5/8"	1.5/8"	1.10	2.95	0.91	1.04	2.05	4.8	6.77	1.02	1.70
4ATW CO 1.13/16"	1.13/16"	1.22	3.34	0.91	1.14	2.05	4.8	6.77	1.02	1.70
4ATW CO 2"	2"	1.34	3.55	0.91	1.24	2.05	4.8	6.77	1.02	1.70
4ATW CO 2.3/16"	2.3/16"	1.44	3.90	0.91	1.33	2.05	4.8	6.77	1.02	1.70
4ATW CO 2.3/8"	2.3/8"	1.62	4.26	0.91	1.45	2.05	4.8	6.77	1.02	1.70
4ATW CO 2.9/16"	2.9/16"	1.69	4.61	0.91	1.54	2.05	4.8	6.77	1.02	1.70
4ATW CO 2.3/4"	2.3/4"	1.82	4.83	0.91	1.66	2.05	4.8	6.77	1.02	1.70
4ATW CO 2.15/16"	2.15/16"	1.95	5.06	0.91	1.78	2.05	4.8	6.77	1.02	1.70

8ATW CO Open Spanner										
Model	Nut Size	Dimension (inch)								
	Imperial	A	B	C	D	R	H2	H1	W1	W2
8ATW CO 2"	2"	1.34	3.41	0.94	1.16	2.64	5.77	7.74	1.30	2.09
8ATW CO 2.3/16"	2.3/16"	1.44	3.74	0.94	1.27	2.64	5.77	7.74	1.30	2.09
8ATW CO 2.3/8"	2.3/8"	1.62	4.09	0.94	1.39	2.64	5.77	7.74	1.30	2.09
8ATW CO 2.9/16"	2.9/16"	1.69	4.51	0.94	1.54	2.64	5.77	7.74	1.30	2.09
8ATW CO 2.3/4"	2.3/4"	1.82	4.85	0.94	1.68	2.64	5.77	7.74	1.30	2.09
8ATW CO 2.15/16"	2.15/16"	1.95	5.28	0.94	1.75	2.64	5.77	7.74	1.30	2.09
8ATW CO 3.1/8"	3.1/8"	2.08	5.61	0.94	1.87	2.64	5.77	7.74	1.30	2.09
8ATW CO 3.5/16"	3.5/16"	2.23	5.84	0.94	2.05	2.64	5.77	7.74	1.30	2.09
8ATW CO 3.1/2"	3.1/2"	2.38	6.07	0.94	2.13	2.64	5.77	7.74	1.30	2.09

14ATW CO Open Spanner										
Model	Nut Size	Dimension (inch)								
	Imperial	A	B	C	D	R	H2	H1	W1	W2
14ATW CO 2.3/4"	2.3/4"	1.82	4.72	1.10	1.66	3.15	6.92	8.89	1.53	2.52
14ATW CO 2.15/16"	2.15/16"	1.95	5.14	1.10	1.77	3.15	6.92	8.89	1.53	2.52
14ATW CO 3.1/8"	3.1/8"	2.08	5.51	1.10	1.89	3.15	6.92	8.89	1.53	2.52
14ATW CO 3.5/16"	3.5/16"	2.23	5.99	1.10	2.00	3.15	6.92	8.89	1.53	2.52
14ATW CO 3.1/2"	3.1/2"	2.38	6.39	1.10	2.14	3.15	6.92	8.89	1.53	2.52
14ATW CO 3.11/16"	3.11/16"	2.54	6.61	1.10	2.23	3.15	6.92	8.89	1.53	2.52
14ATW CO 3.7/8"	3.7/8"	2.7	6.83	1.10	2.37	3.15	6.92	8.89	1.53	2.52
14ATW CO 4.1/4"	4.1/4"	2.86	7.06	1.10	2.49	3.15	6.92	8.89	1.53	2.52
14ATW CO 4.3/8"	4.3/8"	3.01	7.29	1.10	2.60	3.15	6.92	8.89	1.53	2.52

30ATW CO Open Spanner										
Model	Nut Size	Dimension (inch)								
	Imperial	A	B	C	D	R	H2	H1	W1	W2
30ATW CO 3.1/2"	3.1/2"	2.38	6.20	1.22	2.15	4.33	8.99	10.95	1.98	3.35
30ATW CO 3.7/8"	3.7/8"	2.69	6.65	1.22	2.39	4.33	8.99	10.95	1.98	3.35
30ATW CO 4.3/8"	4.3/8"	3.01	7.46	1.22	2.62	4.33	8.99	10.95	1.98	3.35
30ATW CO 4.5/8"	4.5/8"	3.27	8.22	1.22	2.78	4.33	8.99	10.95	1.98	3.35
30ATW CO 5.1/8"	5.1/8"	3.37	9.06	1.22	3.07	4.33	8.99	10.95	1.98	3.35
30ATW CO 5.3/8"	5.3/8"	3.57	9.29	1.22	3.19	4.33	8.99	10.95	1.98	3.35
30ATW CO 5.3/4"	5.3/4"	3.98	9.74	1.22	3.42	4.33	8.99	10.95	1.98	3.35

## METRIC

2ATW CO Open Spanner												
Model	Nut Size	Dimension (mm)										
	Metric	A	B	C	D	R	H2	H1	W1	W2	L	
2ATW CO 27	27	20	46	12	13	37	88	125	20	32	189	
2ATW CO 32	32	22	60	12	17	37	88	125	20	32	189	
2ATW CO 36	36	25	68	12	20	37	88	125	20	32	189	
2ATW CO 41	41	28	77	12	24	37	88	125	20	32	189	
2ATW CO 46	46	31	83	12	27	37	88	125	20	32	189	
2ATW CO 50	50	34	88	12	31	37	88	125	20	32	189	
2ATW CO 55	55	37	93	12	34	37	88	125	20	32	189	

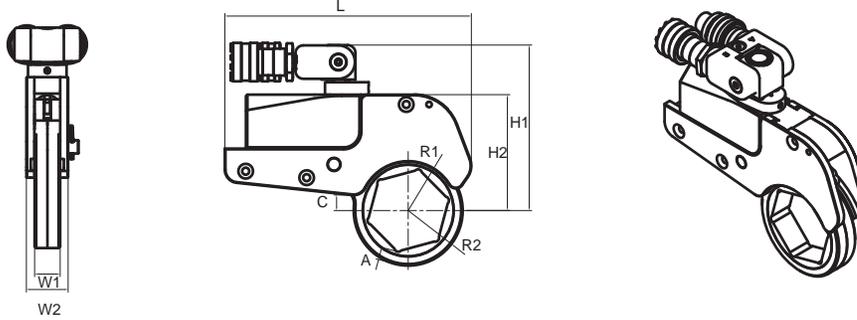
4ATW CO Open Spanner												
Model	Nut Size	Dimension (mm)										
	Metric	A	B	C	D	R	H2	H1	W1	W2	L	
4ATW CO 41	41	28	75	23	26	52	122	172	26	43	248	
4ATW CO 46	46	31	85	23	29	52	122	172	26	43	248	
4ATW CO 50	50	34	90	23	32	52	122	172	26	43	248	
4ATW CO 55	55	37	99	23	34	52	122	172	26	43	248	
4ATW CO 60	60	41	108	23	37	52	122	172	26	43	248	
4ATW CO 65	65	43	117	23	39	52	122	172	26	43	248	
4ATW CO 70	70	46	123	23	42	52	122	172	26	43	248	
4ATW CO 75	75	50	128	23	45	52	122	172	26	43	248	

8ATW CO Open Spanner												
Model	Nut Size	Dimension (mm)										
	Metric	A	B	C	D	R	H2	H1	W1	W2	L	
8ATW CO 50	50	34	87	24	28	67	147	197	33	53	298	
8ATW CO 55	55	37	95	24	32	67	147	197	33	53	298	
8ATW CO 60	60	41	104	24	35	67	147	197	33	53	298	
8ATW CO 65	65	43	114	24	39	67	147	197	33	53	298	
8ATW CO 70	70	46	123	24	43	67	147	197	33	53	298	
8ATW CO 75	75	50	134	24	44	67	147	197	33	53	298	
8ATW CO 80	80	53	142	24	47	67	147	197	33	53	298	
8ATW CO 85	85	57	148	24	52	67	147	197	33	53	298	
8ATW CO 90	90	61	154	24	54	67	147	197	33	53	298	

14ATW CO Open Spanner												
Model	Nut Size	Dimension (mm)										
	Metric	A	B	C	D	R	H2	H1	W1	W2	L	
14ATW CO 70	70	46	120	28	42	80	176	226	39	64	369	
14ATW CO 75	75	50	130	28	45	80	176	227	39	64	369	
14ATW CO 80	80	53	140	28	48	80	176	228	39	64	369	
14ATW CO 85	85	57	152	28	51	80	176	229	39	64	369	
14ATW CO 90	90	61	162	28	54	80	176	230	39	64	369	
14ATW CO 95	95	65	168	28	57	80	176	231	39	64	369	
14ATW CO 100	100	69	173	28	60	80	176	232	39	64	369	
14ATW CO 105	105	73	179	28	63	80	176	233	39	64	369	
14ATW CO 110	110	77	185	28	66	80	176	234	39	64	369	

30ATW CO Open Spanner												
Model	Nut Size	Dimension (mm)										
	Metric	A	B	C	D	R	H2	H1	W1	W2	L	
30ATW CO 90	90	61	158	31	55	110	228	278	50	85	425	
30ATW CO 100	100	69	169	31	61	110	228	278	50	85	425	
30ATW CO 110	110	77	190	31	67	110	228	278	50	85	425	
30ATW CO 115	115	83	209	31	71	110	228	278	50	85	425	
30ATW CO 130	130	86	230	31	78	110	228	278	50	85	425	
30ATW CO 135	135	91	236	31	81	110	228	278	50	85	425	
30ATW CO 145	145	101	247	31	87	110	228	278	50	85	425	

# ATW CR series Ratchet Cassette



## IMPERIAL

2ATW CR Ratchet Cassette											
Model	Nut Size	Torque	Dimension (inch)								
	Imperial	Ft.lbs	A	R1	R2	C	H2	H1	W1	W2	L
2ATW CR 1.1/16"	1.1/16"	143~1438	0.41	1.46	1.02	0.49	3.46	4.94	0.77	1.26	7.44
2ATW CR 1.1/4"	1.1/4"		0.38	1.46	1.10	0.49	3.46	4.94	0.77	1.26	7.44
2ATW CR 1.7/16"	1.7/16"		0.38	1.46	1.21	0.49	3.46	4.94	0.77	1.26	7.44
2ATW CR 1.5/8"	1.5/8"		0.40	1.46	1.34	0.49	3.46	4.94	0.77	1.26	7.44
2ATW CR 1.13/16"	1.13/16"		0.41	1.46	1.46	0.49	3.46	4.94	0.77	1.26	7.44
2ATW CR 2"	2"		0.39	1.46	1.54	0.49	3.46	4.94	0.77	1.26	7.44
2ATW CR 2.3/16"	2.3/16"		0.38	1.46	1.65	0.49	3.46	4.94	0.77	1.26	7.44

4ATW CR Ratchet Cassette											
Model	Nut Size	Torque	Dimension (inch)								
	Imperial	Ft.lbs	A	R1	R2	C	H2	H1	W1	W2	L
4ATW CR 1.5/8"	1.5/8"	372~3720	0.42	2.05	1.36	0.91	4.8	6.77	1.02	1.70	9.76
4ATW CR 1.13/16"	1.13/16"		0.42	2.05	1.46	0.91	4.8	6.77	1.02	1.70	9.76
4ATW CR 2"	2"		0.46	2.05	1.61	0.91	4.8	6.77	1.02	1.70	9.76
4ATW CR 2.3/16"	2.3/16"		0.46	2.05	1.72	0.91	4.8	6.77	1.02	1.70	9.76
4ATW CR 2.3/8"	2.3/8"		0.46	2.05	1.83	0.91	4.8	6.77	1.02	1.70	9.76
4ATW CR 2.9/16"	2.9/16"		0.45	2.05	1.93	0.91	4.8	6.77	1.02	1.70	9.76
4ATW CR 2.3/4"	2.3/4"		0.46	2.05	2.05	0.91	4.8	6.77	1.02	1.70	9.76
4ATW CR 2.15/16"	2.15/16"		0.47	2.05	2.17	0.91	4.8	6.77	1.02	1.70	9.76

8ATW CR Ratchet Cassette											
Model	Nut Size	Torque	Dimension (inch)								
	Imperial	Ft.lbs	A	R1	R2	C	H2	H1	W1	W2	L
8ATW CR 2"	2"	678~6788	0.58	2.64	1.73	0.94	5.77	7.74	1.3	2.09	11.73
8ATW CR 2.3/16"	2.3/16"		0.58	2.64	1.84	0.94	5.77	7.74	1.3	2.09	11.73
8ATW CR 2.3/8"	2.3/8"		0.58	2.64	1.95	0.94	5.77	7.74	1.3	2.09	11.73
8ATW CR 2.9/16"	2.9/16"		0.58	2.64	2.06	0.94	5.77	7.74	1.3	2.09	11.73
8ATW CR 2.3/4"	2.3/4"		0.58	2.64	2.17	0.94	5.77	7.74	1.3	2.09	11.73
8ATW CR 2.15/16"	2.15/16"		0.58	2.64	2.28	0.94	5.77	7.74	1.3	2.09	11.73
8ATW CR 3.1/8"	3.1/8"		0.60	2.64	2.40	0.94	5.77	7.74	1.3	2.09	11.73
8ATW CR 3.5/16"	3.5/16"		0.62	2.64	2.53	0.94	5.77	7.74	1.3	2.09	11.73
8ATW CR 3.1/2"	3.1/2"		0.63	2.64	2.65	0.94	5.77	7.74	1.3	2.09	11.73

14ATW CR Ratchet Cassette											
Model	Nut Size	Torque	Dimension (inch)								
	Imperial	Ft.lbs	A	R1	R2	C	H2	H1	W1	W2	L
14ATW CR 2.3/4"	2.3/4"	1191~11918	0.72	3.15	2.3	1.1	6.92	8.89	1.53	2.52	14.53
14ATW CR 2.15/16"	2.15/16"		0.72	3.15	2.41	1.1	6.92	8.89	1.53	2.52	14.53
14ATW CR 3.1/8"	3.1/8"		0.72	3.15	2.53	1.1	6.92	8.89	1.53	2.52	14.53
14ATW CR 3.5/16"	3.5/16"		0.73	3.15	2.65	1.1	6.92	8.89	1.53	2.52	14.53
14ATW CR 3.1/2"	3.1/2"		0.75	3.15	2.78	1.1	6.92	8.89	1.53	2.52	14.53
14ATW CR 3.11/16"	3.11/16"		0.76	3.15	2.89	1.1	6.92	8.89	1.53	2.52	14.53
14ATW CR 3.7/8"	3.7/8"		0.76	3.15	3	1.1	6.92	8.89	1.53	2.52	14.53
14ATW CR 4.1/4"	4.1/4"		0.65	3.15	3.11	1.1	6.92	8.89	1.53	2.52	14.53
14ATW CR 4.3/8"	4.3/8"		0.69	3.15	3.22	1.1	6.92	8.89	1.53	2.52	14.53

30ATW CR Ratchet Cassette											
Model	Nut Size	Torque	Dimension (inch)								
	Imperial	Ft.lbs	A	R1	R2	C	H2	H1	W1	W2	L
30ATW CR 3.1/2"	3.1/2"	2616~26166	1.05	4.33	3.07	1.22	8.99	10.95	1.98	3.35	16.73
30ATW CR 3.7/8"	3.7/8"		1.04	4.33	3.27	1.22	8.99	10.95	1.98	3.35	16.73
30ATW CR 4.3/8"	4.3/8"		0.98	4.33	3.51	1.22	8.99	10.95	1.98	3.35	16.73
30ATW CR 4.5/8"	4.5/8"		1.01	4.33	3.69	1.22	8.99	10.95	1.98	3.35	16.73
30ATW CR 5.1/8"	5.1/8"		1.00	4.33	3.96	1.22	8.99	10.95	1.98	3.35	16.73
30ATW CR 5.3/8"	5.3/8"		1.01	4.33	4.12	1.22	8.99	10.95	1.98	3.35	16.73
30ATW CR 5.3/4"	5.3/4"		0.97	4.33	4.29	1.22	8.99	10.95	1.98	3.35	16.73

## METRIC

2ATW CR Ratchet Cassette											
Model	Nut Size	Torque	Dimension (mm)								
	Metric	N.m	A	R1	R2	C	H2	H1	W1	W2	L
2ATW CR 27	27	194~1949	10	37	26	12	88	125	20	32	189
2ATW CR 32	32		10	37	28	12	88	125	20	32	189
2ATW CR 36	36		10	37	31	12	88	125	20	32	189
2ATW CR 41	41		10	37	34	12	88	125	20	32	189
2ATW CR 46	46		10	37	37	12	88	125	20	32	189
2ATW CR 50	50		10	37	39	12	88	125	20	32	189
2ATW CR 55	55		10	37	42	12	88	125	20	32	189

4ATW CR Ratchet Cassette											
Model	Nut Size	Torque	Dimension (mm)								
	Metric	N.m	A	R1	R2	C	H2	H1	W1	W2	L
4ATW CR 41	41	504~5044	11	52	35	23	122	172	26	43	248
4ATW CR 46	46		11	52	37	23	122	172	26	43	248
4ATW CR 50	50		12	52	41	23	122	172	26	43	248
4ATW CR 55	55		12	52	44	23	122	172	26	43	248
4ATW CR 60	60		12	52	46	23	122	172	26	43	248
4ATW CR 65	65		12	52	49	23	122	172	26	43	248
4ATW CR 70	70		12	52	52	23	122	172	26	43	248
4ATW CR 75	75		12	52	55	23	122	172	26	43	248

8ATW CR Ratchet Cassette											
Model	Nut Size	Torque	Dimension (mm)								
	Metric	N.m	A	R1	R2	C	H2	H1	W1	W2	L
8ATW CR 50	50	919~9204	15	67	44	24	147	197	33	53	298
8ATW CR 55	55		15	67	47	24	147	197	33	53	298
8ATW CR 60	60		15	67	50	24	147	197	33	53	298
8ATW CR 65	65		15	67	52	24	147	197	33	53	298
8ATW CR 70	70		15	67	55	24	147	197	33	53	298
8ATW CR 75	75		15	67	58	24	147	197	33	53	298
8ATW CR 80	80		15	67	61	24	147	197	33	53	298
8ATW CR 85	85		15	67	64	24	147	197	33	53	298
8ATW CR 90	90		15	67	67	24	147	197	33	53	298

14ATW CR Ratchet Cassette											
Model	Nut Size	Torque	Dimension (mm)								
	Metric	N.m	A	R1	R2	C	H2	H1	W1	W2	L
14ATW CR 70	70	1616~16160	18	80	58	28	176	226	39	64	369
14ATW CR 75	75		18	80	61	28	176	226	39	64	369
14ATW CR 80	80		18	80	64	28	176	226	39	64	369
14ATW CR 85	85		18	80	67	28	176	226	39	64	369
14ATW CR 90	90		18	80	71	28	176	226	39	64	369
14ATW CR 95	95		18	80	73	28	176	226	39	64	369
14ATW CR 100	100		18	80	76	28	176	226	39	64	369
14ATW CR 105	105		18	80	79	28	176	226	39	64	369
14ATW CR 110	110		18	80	82	28	176	226	39	64	369

30ATW CR Ratchet Cassette											
Model	Nut Size	Torque	Dimension (mm)								
	Metric	N.m	A	R1	R2	C	H2	H1	W1	W2	L
30ATW CR 90	90	3547~35481	26	110	78	31	228	278	50	85	425
30ATW CR 100	100		25	110	83	31	228	278	50	85	425
30ATW CR 110	110		26	110	89	31	228	278	50	85	425
30ATW CR 115	115		26	110	94	31	228	278	50	85	425
30ATW CR 130	130		25	110	101	31	228	278	50	85	425
30ATW CR 135	135		27	110	105	31	228	278	50	85	425
30ATW CR 145	145		25	110	109	31	228	278	50	85	425

With a new torque display and buttons, this newly designed WEDCX battery torque wrench offers unmatched power, versatility and reliability. WEDCX Series allows users to choose the target torque more conveniently.



standard reaction arm

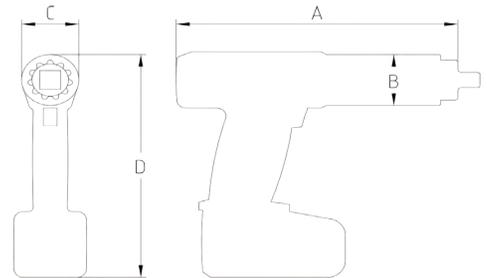
customized double socket reaction arm



customized extended reaction arm



- Digital torque setting, adjustable every 1N.m
- Output torque up to 8000Nm, reaction arm automatically releases
- For applications with limited power sources or field service
- Longer battery life, two batteries and one charge are standard



TYPE	SQ Size	Torque N.m	Speed rpm	Weight kg	Size (mm)			
					A	B	C	D
WED07CX	3/4"	100~700	18	3.5	235	63	67	262
WED14CX	3/4"	300~1400	6.0	3.7	246	63	67	262
WED20CX	1"	400~2000	6.0	4.0	244	63	69	262
WED40CX	1"	800~4000	3.5	6.0	285	69	81	266
WED70CX	1.1/2"	1350~7000	2.4	8.8	295	95	95	272
WED80CX	1.1/2"	1500~8000	1.2	10	311	102	102	275

## Industrial Applications:



V-MED is a new generation of electric torque wrenches for bolt safety or removal in heavy duty industries where precision, power and safety are required. The product can preset the torque, the torque range can reach 8000N.m, providing continuous, stable and controllable torque output.

- Digital torque setting, adjustable every 1N.m
- Torque up to 8000N.m with automatic release of reaction arm as standard
- 220v AC voltage, precise setting of torque, providing smooth and continuous control output
- Repeatability  $\pm 2\%$



standard reaction arm



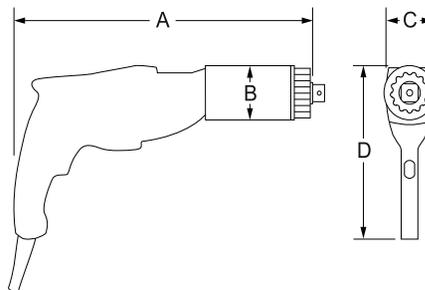
Precisely set torque by the control screen



Ergonomic Grip fast forward and reverse torque output



High-efficiency gear reduction system



Type	SQ Size in.	Torque N.m	Speed rpm	Weight kg	Noise db	A	Size B	(mm) C	D
V-MED14	3/4"	140~1400	7.7	4.9	80	438	63	73	203
V-MED20	1"	200~2000	5	5.9	80	280	69	69	203
V-MED40	1"	400~4000	3	6.2	80	310	81	81	203
V-MED60	1.1/2"	600~6000	2.5	9	80	340	95	95	203
V-MED80	1.1/2"	800~8000	2	11.7	80	500	102	73	210

E-MED Electronic precision control is achieved by high performance servo motors with an accuracy of  $\pm 3\%$  and a repeatability of  $\pm 2\%$ . Using a patented gearbox design, this series of tools produces continuously controlled torque. Compared with traditional hydraulic wrenches, tightening efficiency can be increased by 300%.

### Control unit of touching screen

The touch screen control box provides an easy-to-use operation interface, which can quickly set the torque, set the rotation angle, correct the torque, view the detailed information of the tool, and store the data. All operating data can be stored and exported through the memory card.



- SYSTEM READY
- FAILED OVERTORQUE (FLASH)
- PASSED

LED display indicator

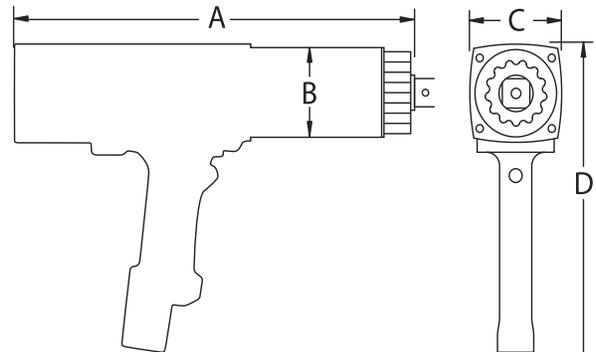


standard reaction arm



### Bluetooth connection

Can be connected to WREN smart tools by Bluetooth technology. This combination can automatically log in calibration data and quickly calibrate the output torque.



Type	SQ Size in.	Torque N.m	Speed rpm	Weight kg	Size (mm)			
					A	B	C	D
E-MED40	1"	700~4000	10.8	11	438	86	94	272
E-MED60	1.1/2"	800~6000	7.6	13	431	91	94	272
E-MED80	1.1/2"	1350~8000	5.2	14	436	102	102	276
E-MED100	1.1/2"	2000~10000	5	15	457	105	105	277
E-MED150	1.1/2"	4000~15000	2.7	20	476	127	127	288

The pneumatic torque wrench is used in the working conditions that require precise and large-scale loading and unloading. The precise high-speed gearbox design can obtain stable and strong continuous output torque, which is suitable for high-efficiency occasions.

- Maximized power-to-weight ratio
- Wide torque range for a variety of applications and stations
- Advanced gearbox design for unmatched reliability
- Torque accuracy  $\pm 4\%$ , repeatability  $\pm 2\%$



WPD14 and WPD20 series



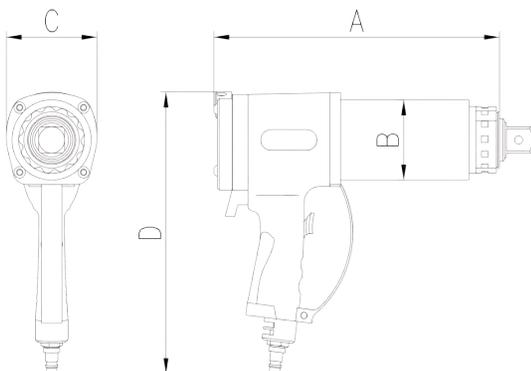
standard reaction arm

WPD tool includes a standard reaction arm ,  
The special reaction arm can be custom-made.



WPD34, WPD40 and WPD80 series

Type	SQ Size in.	Torque N.m	Speed rpm	Weight kg	Noise db	Size(mm)			
						A	B	C	D
WPD14	0.75	275-1400	8.5	4.8	80	207	63	83	261
WPD20	1.0	400-2000	6.3	5.9	80	201	69	83	261
WPD34	1.0	700-3400	4.8	7.0	85	269	77.5	89	272
WPD40	1.0	1200-4000	4.8	7.5	85	289	81	89	272
WPD80	1.5	2700-8000	4.2	12.2	85	317	102	95	293
WPD150	1.5	5500-15000	2.5	19.8	85	351	127	95	293



### Standard Accessories:

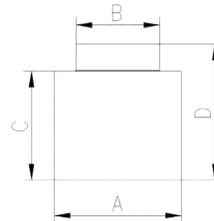
- Standard Reaction Arm
- Circlip
- G1/2 Air Hose
- Air Gauge, FRL, Air Regulator
- Carry Basket
- Air-Torque Chart
- Operating Manual



WREN Digital socket is a combination of WREN torque sensor technology and socket, which can reflect the actual torque of the bolt in real time during the bolt tightening process. Through an innovative design, the Digital Socket - the size of a standard socket. Its small size and innovative technology make the Digital Socket the perfect calibration tool for checking bolted connections, as well as a calibration device for a variety of torque tools. Works in conjunction with WREN servo electric wrenches to guide correct torque and fast bolt tightening.



- Measure and display peak torque
- Record and output torque data (XLS,CSV,PDF)
- Check Datas on PC computer or Smart Phone by Bluetooth
- The sensor accuracy is  $\pm 1\%$
- To make bolt tightened automatically-stop work when torque is set

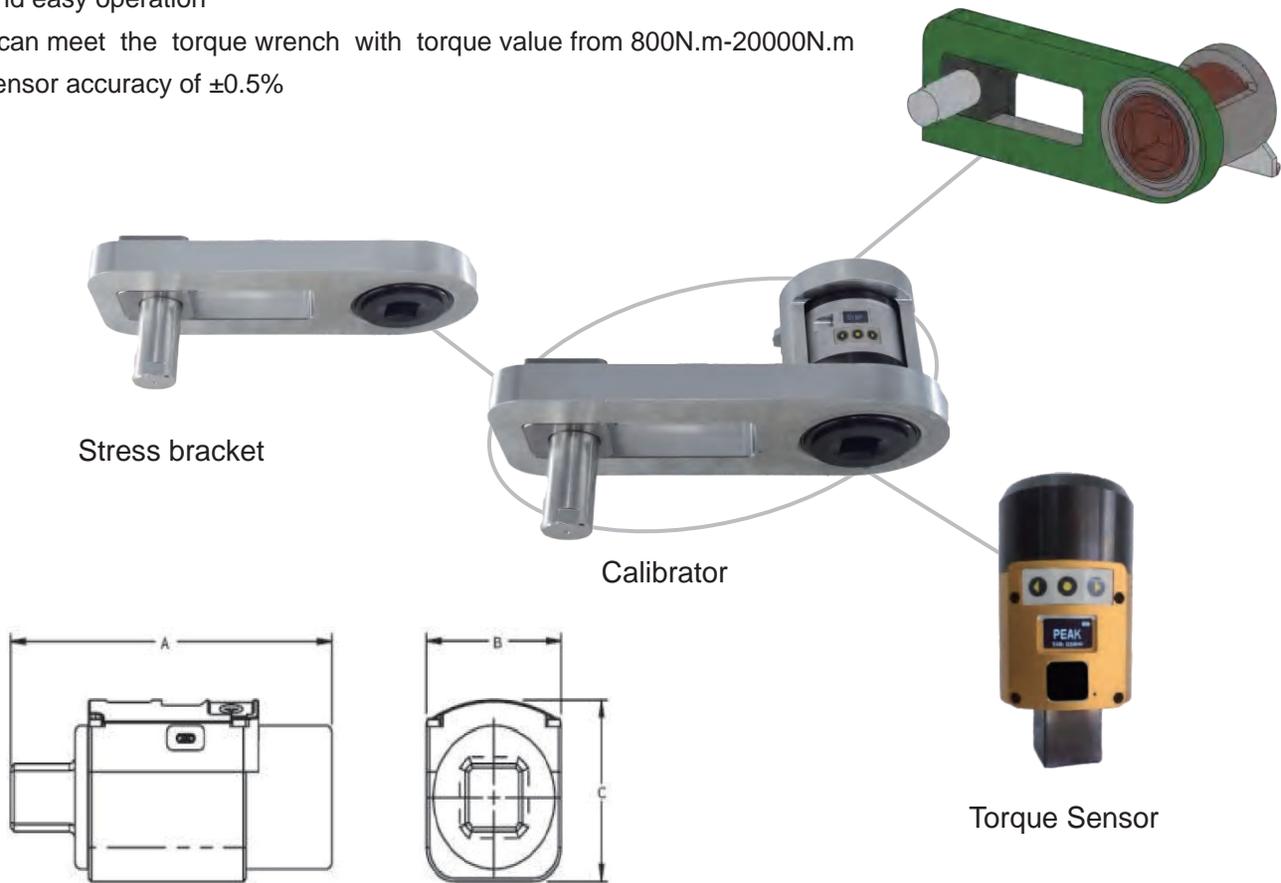


Type	Torque (N.m)	SQ Size	Weight (kg)	Size(mm)			
				A	B	C	D
33mm3/4"	200~2000	3/4"	1.5	72	54	65	87
36mm3/4"	200~2000	3/4"	1.4	72	44	70	87
36mm1"	200~2000	1"	1.2	72	54	65	87
41mm1"	200~2000	1"	1.2	74	54	65	87
46mm1"	200~2000	1"	1.2	74	54	65	87
50mm1"	400~4000	1"	1.5	86	54	69	89
55mm1"	400~4000	1"	1.5	86	54	69	89
60mm1"	400~4000	1"	1.5	89	54	69	89
65mm1.5"	1100~10800	1.5"	4.9	115	86	89	121
70mm1.5"	1100~10800	1.5"	4.7	115	86	89	121
80mm1.5"	1100~10800	1.5"	4.2	115	86	89	121
90mm1.5"	1600~16000	1.5"	6.2	131	99	97	132
100mm1.5"	1600~16000	1.5"	7.7	146	99	104	136

# TYS10

## For Hydraulic Torque Wrench

- Precise calibration of output torque
- The calibrated results can be viewed, recorded, and output in real time (support XLS, CSV, PDF format, support Bluetooth connection tablet computer ) accurate testing, stable performance, rich functions, and easy operation
- It can meet the torque wrench with torque value from 800N.m-20000N.m
- Sensor accuracy of  $\pm 0.5\%$



Parameters of Calibrator for Hydraulic Torque Wrench

Type	SQ Size	Torque(N.m)		Size A	Size B (mm)	Size C
		Min	Max			
TYS10-002	1.1/2"	800	10000	189	64	102
TYS10-003	2.1/2"	800	20000	221	64	105

## TYS30

### Calibrator for Electrical / Pneumatic Torque Wrench

- Precise calibration of output torque
- The calibrated results can be viewed, recorded and output in real time (support XLS, CSV, PDF format, support Bluetooth connection tablet computer)
- Accurate calibrating, stable performance, rich functions, easy operation



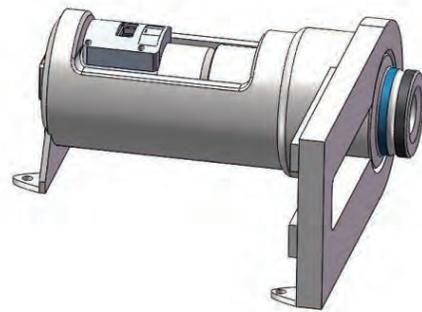
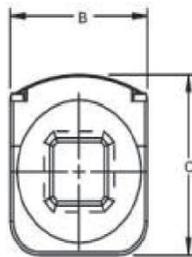
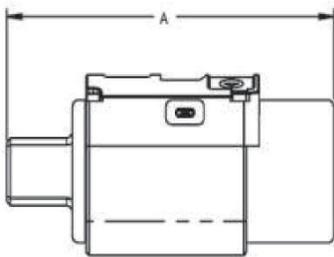
Calibrator



Stress bracket



Torque Sensor



#### Parameters of Calibrator for Electrical / Pneumatic Torque Wrench

Type	SQ Size (mm)	Torque(N.m)		Size A	Size B
		Min	Max		
TYS30-001	1.5"	200	9500	171	64
TYS30-002	1"	200	2000	142	60

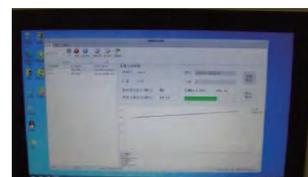
## TYS21

### Calibrator for Bolt Tensioner

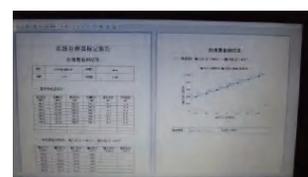
- Precise calibration of input pressure and output load Capacity
- The system interface is clear and easy to operate, the test data is displayed in real time, and the calibration report is generated
- It is calibrated by Zhejiang provincial Metrology Institute, and the calibration is in line with CNAS standards
- Support 100kN~3000kN tensile calibration
- Accuracy class 0.5, resolution  $\leq 0.1\text{kN}$ , long-term stability  $\leq 0.3\%$
- Working pressure: 0-1500bar



Safe and stable operation



Quick and easy Calibrator



Professional report generation



#### Parameters of Calibrator

Type	Calibrating Range(kN)		Power(kw)	Pressure(bar)	Voltage/Frequency (v/Hz)
	Min	Max			
TYS21-001	100	3000	1.1	700	220/50

## TYS20

### Portable Calibrator for Bolt Tensioner

- The portable box with roller design is easy to move and suitable for working conditions
- Precise calibration of input and output pressure
- Support 100kN - 3000kN tensioner inspection
- The number of explicit indexes is 200,000
- Accuracy <math>< 0.3\%</math> , A/D slew rate 25 times/sec
- Built-in 7.4 lithium battery, external power adapter



Portable Calibrator



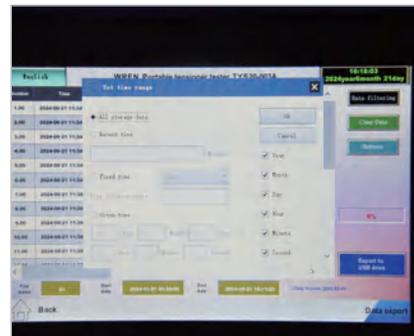
Portable Design



Cover more models



Replaceable Thread Adapter



Multiple tensioner tests

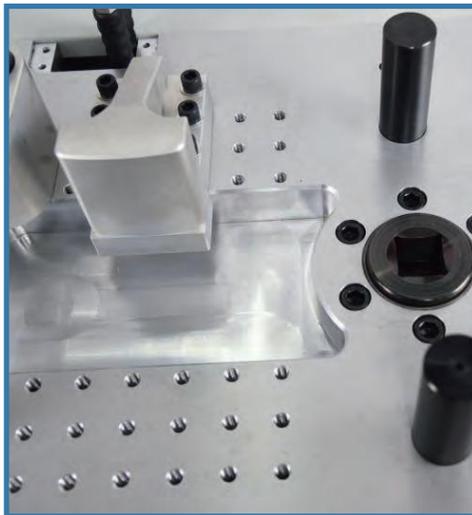
#### Parameters of Portable Calibrator

Type	Calibrating Range(kN)		Voltage(v)	Frequency(Hz)
	min	max		
TYS20-002	100	3000	100~240	50/60

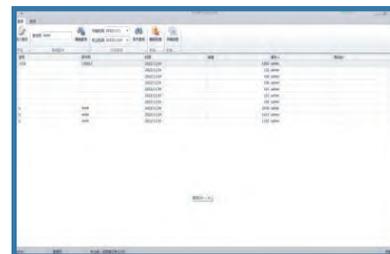
## TYS31

### Calibrator for Electrical / Pneumatic Torque Wrench

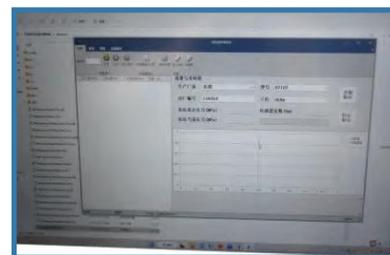
- Accurately calibrate the input pressure and output torque of the Electrical / Pneumatic wrench
- The system interface is clear and easy to operate, the test data is displayed in real time, and the calibration report is generated
- Passed the verification and certification of a third - party organization with CNAS qualification, and the calibration meets CNAS standards
- Dual sensor, support 200N.m~2000N.m ,950N.m ~ 9500N.m electric wrench inspection
- Accuracy is  $\pm 1\%$
- The cabinet is made of sheet metal, and the table is made of aluminum alloy, which is safe and reliable



Special Socket



Accurate Report



Managing System

#### Parameters of Calibrator

Type	Calibrating Range(N.m)		Power(kw)	Voltage(v/Hz)	L*W*H(mm)
	min	max			
TYS31-001	200	9500	1.5	220/50	705*800*600

## TYS11

### Calibrator for Hydraulic Torque Wrench

- Accurately calibrate the input pressure and output torque of the hydraulic wrench
- The system interface is clear and easy to operate, the test data is displayed in real time, and the calibration report is generated
- Passed the verification and certification of a third - party organization with CNAS qualification, and the calibration meets CNAS standards
- Accuracy of  $\pm 1\%$
- The cabinet is made of sheet metal , and the table is made of aluminum alloy , which is safe and reliable



Accurate Report



Special Socket



Calibrating Bench



Professional software readings



Portable Design

#### Parameters of Calibrator

Type	Calibrating Range(N.m)		Power(kw)	Pressure(bar)	Voltage Frequency (v/Hz)
	min	max			
TYS11-001	500	3000	1.5	700	220/50

## TYS02

### Portable Calibrator for Hydraulic Torque Wrench

- With roller design, easy to move, suitable for working conditions
- Accurately calibrate the input pressure and output torque of the hydraulic wrench
- Calibration by Zhejiang Provincial Metrology institue, calibration in line with CNAS standards
- Support 0~15000N.m hydraulic wrench inspection
- 160x84 size instrument, product front panel protection grade IP65
- Accurately  $\pm 1\%$



Portable Calibrating Bench



The torque can be displayed precisely



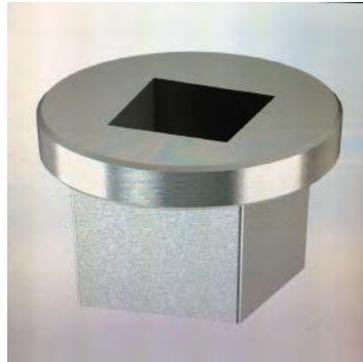
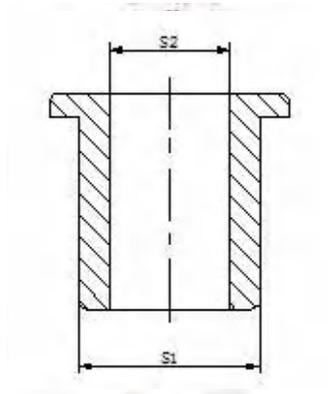
Safety Operation



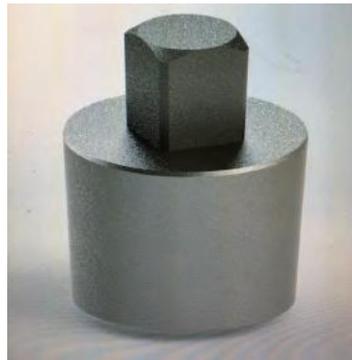
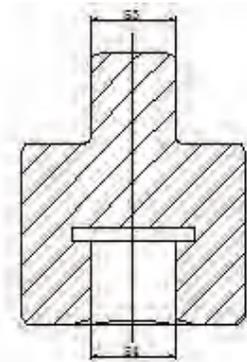
Portable Design with Roller Wheel

#### Parameters of Calibrator

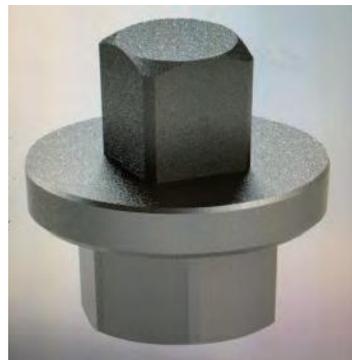
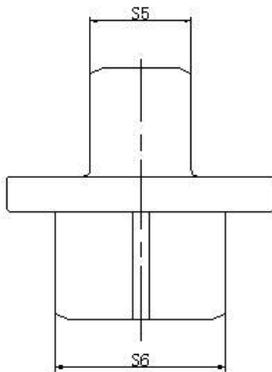
Type	Calibrating Range(N.m)		Square Drive	Voltage(v)	Frequency(Hz)
	min	max			
TYS02-010	0	15000	0.75"~1.5"	100~240	50/60



S1~S2



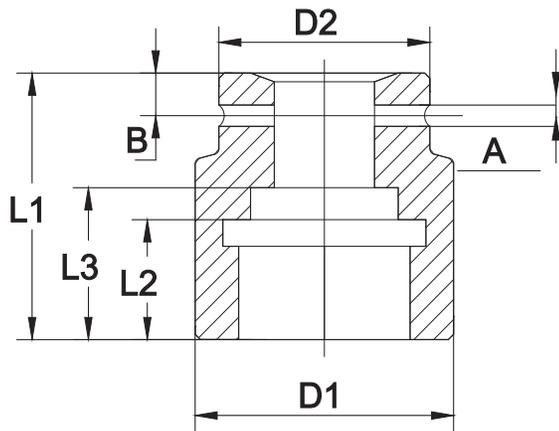
S3~S4



S5~S6

S1(SQ)	S2(SQ)	S3(SQ)	S4(SQ)	S5(SQ)	S6(Hex)
1.5"	1"	1.5"	0.75"	1.5"	0.75"
1.5"	0.75"	1.5"	1"	1.5"	1"
		1.5"	1.5"	1.5"	1.5"
		1.5"	2.5"	1.5"	2.5"

# SOCKET

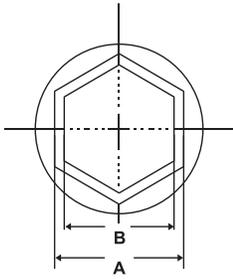


Can order imperial and non-standard socket

Square drive :	3/4"	1"	1-1/2"	2-1/2"
A:	Φ6.3	Φ8	Φ8	Φ10
B:	10	14	16	38

## Standard sockets selection chart

Bolt Type		3/4" 07IBT/1IBT								1" 3IBT								1-1/2" 5,8,10IBT								2-1/2" 20,25,35,50IBT							
D	N	A	B	L1	L2	L3	D1	D2	A	B	L1	L2	L3	D1	D2	A	B	L1	L2	L3	D1	D2	A	B	L1	L2	L3	D1	D2				
M16	24	6.3	10	54	32	32	40	40																									
M18	27	6.3	10	54	32	32	42	42																									
M20	30	6.3	10	54	33	33	46	44	8	14	59	32	32	54	54																		
M22	34	6.3	10	54	33	33	52	44	8	14	59	32	32	58	58																		
M24	36	6.3	10	57	33	33	54	44	8	14	62	32	32	59	59	8	16	85	44	44	74	74											
M27	41	6.3	10	58	33	33	60	44	8	14	65	38	38	67	54	8	16	85	44	44	74	74											
M30	46	6.3	10	63	38	38	66	44	8	14	65	38	38	74	54	8	16	85	44	44	74	74											
M33	50	6.3	10	65	40	40	71	44	8	14	70	43	43	79	60	8	16	90	45	45	79	79											
M36	55	6.3	10	70	45	45	77	54	8	14	80	42	52	84	60	8	16	90	45	45	84	84	8	18	100	57	57	86	114				
M39	60								8	14	85	45	57	89	60	8	16	100	45	57	94	75	8	18	100	52	52	119	119				
M42	65								8	14	85	45	57	98	70	8	16	100	45	57	98	80	8	18	100	52	52	119	119				
M45	70								8	14	90	50	62	104	70	8	16	105	50	62	104	80	8	18	120	67	67	128	128				
M48	75								8	14	95	50	65	108	70	8	16	110	50	65	118	85	8	18	120	67	67	128	128				
M52	80															8	16	115	55	72	118	90	8	18	130	71	71	128	128				
M56	85															8	16	125	60	77	128	90	8	18	130	71	71	129	129				
M60	90															8	16	125	60	77	139	90	8	18	140	61	73	139	139				
M64	95															8	16	130	65	82	139	90	8	18	140	66	73	139	139				
M68	100															8	16	135	70	87	144	90	8	18	140	71	81	148	130				
M72	105															8	16	135	70	87	149	90	8	18	150	77	89	156	130				
M76	110															8	16	135	70	87	158	90	8	18	150	72	90	158	130				
M80	115															8	16	135	70	87	159	95	8	18	150	82	98	168	130				
M85	120															8	16	135	70	87	168	95	8	18	150	82	98	178	130				
M90	130															8	16	155	93	105	189	95	8	18	170	93	114	189	130				
M95	135																							8	18	170	93	114	198	130			
M100	145																							8	18	170	98	122	210	152			
M105	150																							8	18	190	100	140	216	152			
M110	155																							8	18	190	100	140	229	152			
M115	165																							8	18	190	100	140	241	152			



Can order imperial and non-standard Reducer Inserts

Standard reducer inserts selection chart

Wrench Model	Cassette	Nut Size (S)	Reducer Insert						Locking ring
			Type	A/B (mm)	Type	A/B (mm)	Type	A/B (mm)	
<b>2 LOW</b>	2LOW-50	50	2G5041	50/41	2G5036	50/36	2G5032	50/32	H-50
	2LOW-46	46	2G4636	46/36	2G4632	46/32	2G4630	46/30	H-46
	2LOW-41	41	2G4132	41/32	2G4130	41/30	2G4127	41/27	H-41
	2LOW-36	36	2G3630	36/30	2G3627	36/27			H-36
	2LOW-32	32	2G3227	32/27					H-32
	2LOW-30	30							
<b>4 LOW</b>	4LOW-65	65	4G6555	65/55	4G6550	65/50	4G6546	65/46	H-56
	4LOW-60	60	4G6050	60/50	4G6046	60/46	4G6041	60/41	H-60
	4LOW-55	55	4G5546	55/46	4G5541	55/41	4G5536	55/36	H-55
	4LOW-50	50	4G5041	50/41	4G5036	50/36	4G5032	50/32	H-50
	4LOW-46	46	4G4636	46/36	4G4632	46/32	4G4630	46/30	H-46
	4LOW-41	41	4G4132	41/32	4G4130	41/30	4G4127	41/27	H-41
	4LOW-36	36	4G3630	36/30	4G3627	36/27			H-36
	4LOW-32	32	4G3227	32/27					H-32
<b>8 LOW</b>	8LOW-90	90	8G9080	90/80	8G9075	90/75	8G9070	90/70	H-90
	8LOW-85	85	8G8575	85/75	8G8570	85/70	8G8565	85/65	H-85
	8LOW-80	80	8G8070	80/70	8G8065	80/65	8G8060	80/60	H-80
	8LOW-75	75	8G7565	75/65	8G7560	75/60	8G7555	75/55	H-75
	8LOW-70	70	8G7060	70/60	8G7055	70/55	8G7050	70/50	H-70
	8LOW-65	65	8G6555	65/55	8G6550	65/50	8G6545	65/45	H-65
	8LOW-60	60	8G6050	60/50	8G6046	60/46			H-60
	8LOW-55	55	8G5546	55/46	8G5541	55/41			H-55
<b>14 LOW</b>	14LOW-115	115	14G115105	115/105	14G115100	115/100	14G11595	115/95	H-115
	14LOW-110	110	14G110100	110/100	14G11095	110/95	14G11090	110/90	H-110
	14LOW-105	105	14G10595	105/95	14G10590	105/90	14G10585	105/85	H-105
	14LOW-100	100	14G10090	100/90	14G10085	100/85	14G10080	100/80	H-100
	14LOW-95	95	14G9585	95/85	14G9580	95/80	14G9575	95/75	H-95
	14LOW-90	90	14G9080	90/80	14G9075	90/75	14G9070	90/70	H-90
	14LOW-85	85	14G8575	85/75	14G8570	85/70	14G8565	85/65	H-85
	14LOW-80	80	14G8070	80/70	14G8065	80/65			H-80
	14LOW-75	75	14G7565	75/65					H-75
	14LOW-70	70							
<b>30 LOW</b>	30LOW-155	155	30G155145	155/145	30G155130	155/130	30G155120	155/120	H-155
	30LOW-145	145	30G145130	145/130	30G145120	145/120	30G145115	145/115	H-145
	30LOW-130	130	30G130120	130/120	30G130115	130/115	30G130110	130/110	H-130
	30LOW-120	120	30G120110	120/110	30G120105	120/105	30G120100	120/100	H-120
	30LOW-115	115	30G115105	115/105	30G115100	115/100	30G11595	115/95	H-115
	30LOW-110	110	30G110100	110/100	30G11095	110/95	30G11090	110/90	H-110
	30LOW-105	105	30G10595	105/95	30G10590	105/90	30G10590	105/90	H-105
	30LOW-100	100	30G10090	100/90	30G10085	100/85	30G10080	100/80	H-100
	30LOW-95	95	30G9585	95/85	30G9580	95/80			H-95
	30LOW-90	90	30G9080	90/80					H-90
	30LOW-85	85							
	30LOW-80	80							

# The Choosing Of Hydraulic Torque Wrench

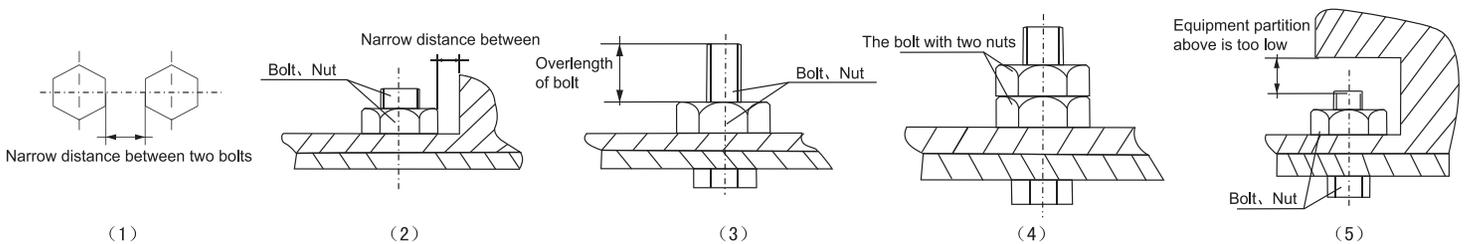
The bolt and nut pretightening force recommended chart.

Strength Grade		4.8		6.8		8.8		10.9		12.9	
Minmum Breaking Strength		392Mpa		588Mpa		784Mpa		941Mpa		1176Mpa	
Material		Q235(SS41)		35(S35C)		35CrMo(SCM3)		42CMo(SCM4)		40GrNiMoA(SNCM)	
Bolt M(mm)	Diameter S(mm)	Torque		Torque		Torque		Torque		Torque	
		KGM	N.m	KGM	N.m	KGM	N.m	KGM	N.m	KGM	N.m
14	22	7	69	10	98	14	137	17	165	23	225
16	24	10	98	14	137	21	206	25	247	36	363
18	27	14	137	21	206	39	284	35	341	49	480
20	30	18	176	28	296	41	402	58	569	69	680
22	32	23	225	34	333	55	539	78	765	93	911
24	36	32	314	48	470	70	686	100	981	120	1176
27	41	45	441	65	637	105	1029	150	1472	180	1764
30	46	60	588	90	882	125	1225	200	1962	240	2352
33	50	75	735	115	1127	150	1470	210	2060	250	2450
36	55	100	980	150	1470	180	1764	250	2453	300	2940
39	60	120	1176	180	1764	220	2156	300	2943	370	3626
42	65	155	1519	240	2352	280	2744	390	3826	470	4606
45	70	180	1764	280	2744	320	3136	450	4415	550	5390
48	75	230	2254	350	3430	400	3920	570	5592	680	6664
52	80	280	2744	420	4116	480	4704	670	6573	850	8330
56	85	360	3528	530	5149	610	5978	860	8437	1050	10290
60	90	410	4018	610	5978	790	7742	1100	10791	1350	13230
64	95	510	4998	760	7448	900	8820				
68	100	580	5684	870	8526	1100	10780				
72	105	660	6468	1000	9800	1290	12642				
76	110	750	7350	1100	10780	1500	14701				
80	115	830	8143	1250	12250	1850	18130				
85	120	900	8820	1400	13720	2250	22050				
90	130	1080	10584	1650	16170	2500	24500				
100	145	1400	13720	2050	20090						
110	155	1670	16366	2550	24990						
120	175	2030	19894	3050	29890						

- ▲ This is Germany standard (DIN) above, the figure in the form is the max torque of the bolt, and the recommended torque is 80% of chart figure
- ▲ The recommended tightening torque equals the figure in the form\*(80~90%). For instance: M52, strength grade is 8.8, the torque is 4704\*90%=4233.6N.m
- ▲ It is recommended that loosening torque equals about 150% of tightening torque. For instance, the tightening torque is 4233.6\*(1.5~2)=6350.4~8467.2N.m

## The Space

Because of the space restriction, please notice the location. For example:



If you meet the above conditions, the square driven Torque Wrench cannot be used, you may use the Low Profile Wrench.

**THE BW-SERIES MAGNETIC BACKUP WRENCHES SIMPLIFY WAY TO STOP A NUT ROTATION. EASY TO USE AND VERSATILE**

When torquing or loosening nuts, the thin profile of the BW Backup wrench prevents the nut on the opposite side of the stud from turning.

No hydraulic, just mechanical & HANDS FREE OPERATION Eliminate injuries on hand and fingers.

Eliminate sparks cause from the use of slugging / striker wrenches.  
Reduce time of operation and improve in productivity.



**BOLTING SOLUTIONS**

**MAGNETS EMBEDDED**

creates a magnetic field and force that attracts on other ferromagnetic materials.

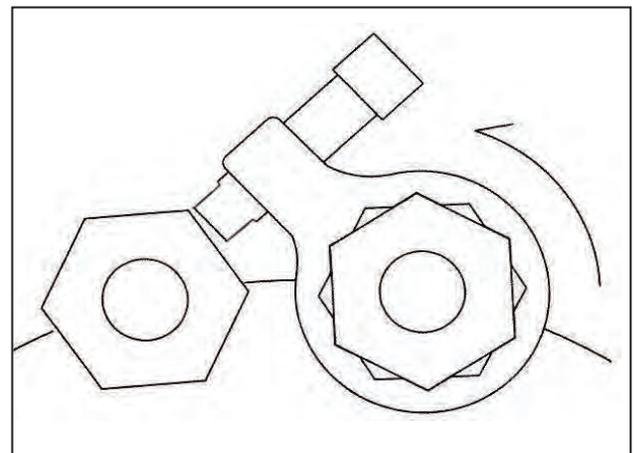
**BI-HEXAGONAL DESIGN**

provides the ultimate mixture of versatility and durability



Usually set release bolt approximate 1/2" length extension, user can be proper to adjust the length extension in case of special space.

Place Backup Wrench on operated Nut, rotates Backup Wrench in counter-clockwise side until release bolt touching reaction points, by this operation, if the release bolt is impossible to close the reaction points after rotation, user also can run release bolt a little out to make it to touch reaction points, after finishing torque operation by hydraulic torque wrench, please loose release bolt with a manual wrench (or other similar wrench), then take backup wrench off and proceed to next operated nut.



WIDE RANGE OF METRIC AND IMPERIAL SIZES AVAILABLE

**Nut Across Flat Range**

**30 mm - 145 mm**

**1 1/4" - 5 3/4"**

Model	Across Flat (mm)	Across Flat (in)	Load Limits (Ft.lbs)	Load Limits (Nm)
BW104	30	1-1/4"	2400	3254
BW107	36	1-7/16"	2500	3390
BW110	41	1-5/8"	3500	4745
BW113	46	1-13/16"	3500	4745
BW200	50	2"	4100	5559
BW203	55	2-3/16	4200	5694
BW204	57	2-1/4"	4300	5830
BW206	60	2-3/8"	4300	5830
BW209	65	2-9/16"	4550	6169
BW212	70	2-3/4"	5600	7592
BW215	75	2-15/16"	6300	8542
BW302	80	3-1/8"	7000	9491
BW308	85	3-1/2"	7200	9762
BW311	90	3-11/16"	7300	9897
BW314	95	3-7/8"	9000	12202
BW400	100	4"	24000	32539
BW402	105	4-1/8"	24000	32539
BW404	110	4-1/4"	24000	32539
BW408	115	4-1/2"	25000	33895
BW410	120	4-5/8"	27000	36607
BW500	130	5"	27000	36607
BW506	135	5-3/8"	27000	36607
BW512	145	5-3/4"	28000	37962

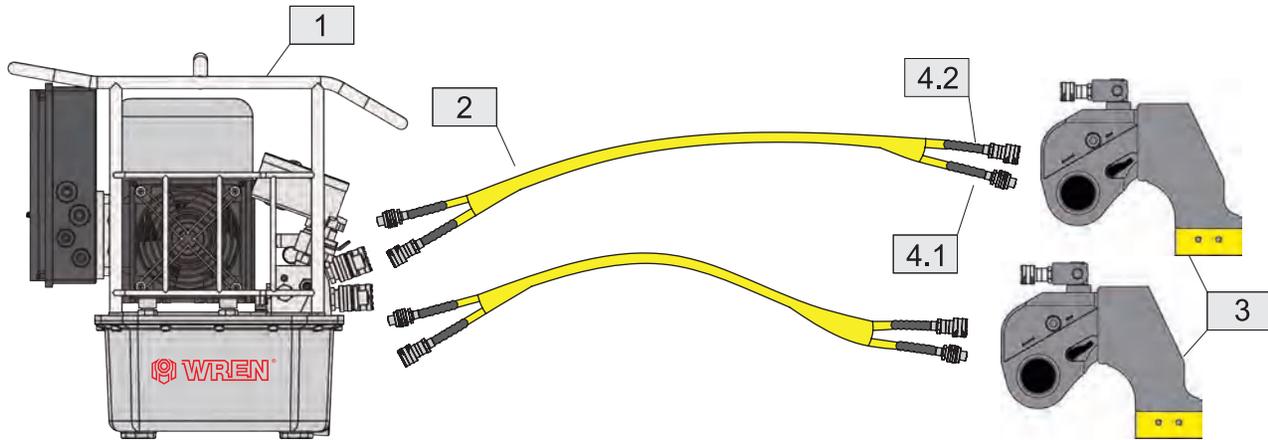
The existing M42 ( S65 ) strength grade level 8.8 flange bolt with a two drive type hydraulic torque wrench.

Each type of hydraulic torque wrench has its own torque range.

If known to the locking torque value X N.m. As with the torque wrench maximum output torque value should be at least 2X N.m ( bolt torque to remove loose locking torque of 1.5 ~ 2 times ). As is the case with M42 ( S65 ) bolt, if the technical requirements of the locking torque values for 2600N.m, it should in principle for the configuration of the torque wrench torque value should be greater than 5200N.m ( such as field conditions, without removing the loose bolts, can be served with relatively little torque models). Check table selection of most suitable torque wrench torque wrench is 5 IBT type hydraulic torque wrench.

If you are on the site requirements of the locking torque values are unknown, WREN engineer will recommend you use. You can also follow the steps below to his own projections. From the bolt and nut torque value for recommendation, in accordance with the bolt size, strength check table to derive a closer to the real value of torque. As is the case with M42 ( S65 ) look bolt locking torque of  $2744 \times 90\% = 2470\text{N.m}$ , due to remove loose bolt torque for locking of 1.5 ~ 2 times, matching hydraulic wrench torque value should be greater than 4940N.m. Check table selection of most suitable torque wrench torque wrench is 5 IBT type hydraulic torque wrench.

Configure:



- 1 LP3-2 Electric Pump
- 2 2JH6460 Twin Hose
- 3 5IBT Square Drive Torque Wrench

- 4.1 C9011 Quick Coupler ( F )
- 4.2 C9012 Quick Coupler ( M )

### one pump for two torque wrenches

Type	Number	Note
LP3	1	220V/50HZ/700bar
5IBT	2	Torque 700~7500N.m
2JH6460	2	6M
C901 Quick coupler	4	C9011 and C9012

### one for one torque wrench

Type	Number	Note
LP3-2	1	220V/50HZ/700bar
5IBT	1	Torque 700~7500N.m
2JH6460	1	6M
C901 Quick coupler	2	C9011 and C9012

# Hydraulic Torque Wrench Pump



WREN can make the special length of remote control wire according customers' requirement (WREN standard: 6 meters).

## Electric Pump LP3 series

### Parameter

Model	LP3-2	LP3-4
Operating wrench	2	4
Tank capacity	5.5L	5.5L
Flow(low-mid-High)	7-1.6-0.8 L/min	7-1.6-0.8 L/min
Output pressure	70~700bar	70~700bar
Source of power	220V/50HZ	220V/50HZ
Power	1.1KW	1.1KW
Weight	25Kg	27Kg
Dimension	419x295x464mm	419x295x464mm

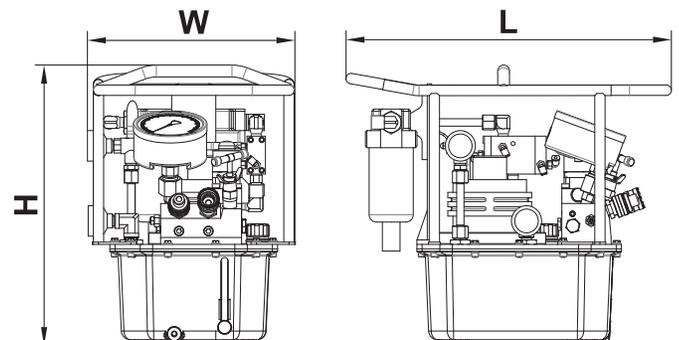
- Compact automatic three stage design.
- Applicable on one or two wrenches simultaneously.
- Aluminum oil tank with gauge.
- Have  $\Phi 100$  high pressure gauge.
- Infinitely variable pressure adjustment between 70~700 bar.
- With the high efficiency radiator the pump can work 24 hours continuously.
- Can change the motor to fit the different voltage.
- Optional components(FP4), can operate four wrenches at the same time.

## Air Pump LP3-N series

### Parameter

Model	LP3-N2	LP3-N4
Operating wrench	2	4
Working pressure	700 bar	700 bar
Air pressure(Input)	4-8 bar	4-8 bar
Power	3.0 KW	3.0 KW
Tank capacity	5.5L	5.5L
Flow rate (low-mid-high)	8.6-2.2-1.1 L/min	8.6-2.2-1.1 L/min
Oil cooler	N/A	N/A
Weight	22Kg	24Kg
Oil outputs	4x1/4" NPT	8x1/4" NPT
Dimension	419x295x464mm	419x295x464mm

- Compact three-stage pump
- The Single valve block can be replaced by component FP4, there by allowing 2 or 4 Tools to be driven simultaneously.
- Three stage with air drive.
- Supporting continuous operation with steel frame.
- 4" diameter gauge, aluminium oil tank with oil level indicator
- Variable pressure adjustment between 70~700 bar
- Designed for continuous operation



## Electric Pump KLW4020 series



\* Optional

### Parameter

Model	KLW4020Z42	KLW4020Z44
Operating wrench	2	4
Tank capacity	8L	8L
Flow(low-mid-High)	7-1.6-0.8L/min	7-1.6-0.8L/min
Output pressure	70~700bar	70~700bar
Source of power	100V - 250V / 50Hz - 60Hz	
Power	1.5 KW	1.5KW
Weight	27 KG	29 KG
Dimension	445x355x468mm	445x355x468mm

- Compact automatic three stage design.
- Applicable on one or two wrenches simultaneously.
- Aluminum oil tank with gauge.
- Have  $\Phi 100$  high pressure gauge.
- Infinitely variable pressure adjustment between 70~700 bar.
- With the high efficiency radiator the pump can work 24 hours continuously.
- Optional components, can operate four wrenches at the same time.



## Air Pump KLW4030N series

### Parameter

Model	KLW4030N2	KLW4030N4
Operating wrench	2	4
Tank capacity	8L	8L
Flow(low-mid-High)	8.6-2.2-1.1 L/min	8.6-2.2-1.1 L/min
Output pressure	70~700 bar	70~700 bar
Air in	4~8 bar	4~8 bar
Power	3 KW	3 KW
Weight	21.5Kg	23.5Kg
Dimension	407x289x450mm	407x289x450mm

- Input air(4~8 bar).
- Compact automatic three stage flow, can start in high pressure
- Applicable on one or two wrenches simultaneously
- Aluminum oil tank with oil gauge.Total weight only 21.5 kg
- Have  $\Phi 100$  high pressure gauge
- Infinitely variable pressure adjustment between 70~700 bar
- With the high efficiency cooling system makes the pump suitable in extreme environment
- Optional components(FP4),can operate four wrenches at the same time.



Left type of FRL is standard one  
Right type of FRL is for option

## Semi-automatic Electric Pump

KLW4120 Series Semi-automatic Electrical Pump shared a same design with KLW4010 series standard Electric Pump, it just was added a set of control system on the basic of KLW4010 standard Pump, it inherits all the characteristics of KLW4010, other characteristics are as below.

**-Simple Operation:**

Operate with one Button, the operator just press the button once time to achieve the task of tightening and loosening.

**-High Efficiency:**

Compare with the general Pump, KLW4120 Semi-automatic Pump has compact operation process to reduce some needless action and increase approximate 50% of working efficiency.

**-Manual / Automatic**

Besides of the semi-automatic operation, the Pump also has the function of manual operation.

KLW4120 can work 24 hours continuously. WREN also can make the Pump with other kinds of motors according customers' requirement.



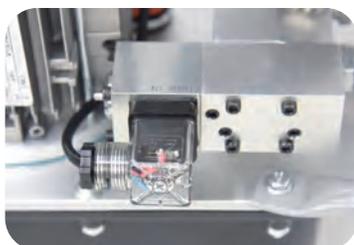
### Model: KLW4120

Parameter

Model	KLW4120-2	KLW4120-4
Operating wrench	2	4
Tank capacity	8L	8L
Flow(low-mid-High)	7-1.6-0.8 L/min	7-1.6-0.8 L/min
Out put pressure	70~700bar	70~700bar
Source of power	220V/50HZ	220V/50HZ
Power	1.1KW	1.1KW
Weight	27.7Kg	29.7Kg
Dimension	445×299×446mm	445×299×446mm

## Portable Electric Pump LP3S series

型号	LP3S
Work Pressure	70MPa
Drive	Electrical
Voltage	220v/50Hz
Power	0.6kW
Oil Tank	1.5L
Flow(low-mid-High)	2.9-1.0-0.4L/min
Cooler	no
Weight(kg)	18kg
Oil Outputs	2-NPT1/4
LxWxH(mm)	362×255×366mm



- Compact design, significantly smaller and lighter
- Suitable for maintenance work, easy to carry
- 3-stage design, 4 pistons, fast while compact
- With 100mm diameter pressure Gauge, G1/2 connect threads
- Lock-releasing controlled by solenoid valve

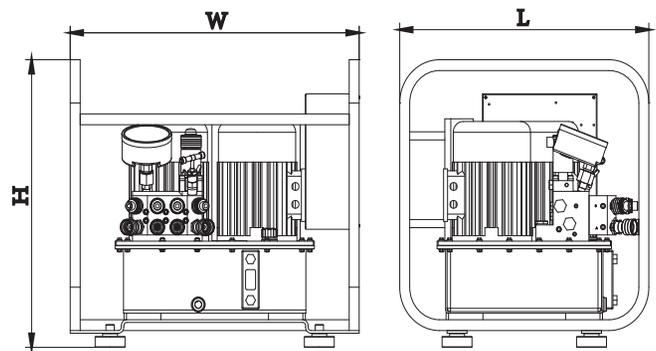


## Double Engine High Speed Hydraulic Pump

- Compact automatic three stage flow, can start in high pressure
- Applicable on one or two wrenches simultaneously
- Aluminum oil tank with gauge
- Have  $\Phi 100$  high pressure gauge
- Infinitely variable pressure adjustment between 70~700 bar
- With the high efficiency cooling system makes the pump suitable in extreme environment
- Optional components(FP4), can operate four wrenches at the same time

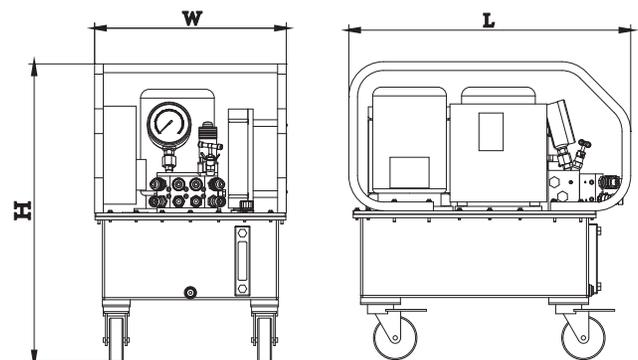
DHP 1.1KW x 2 (220v)

Model	DHP-220x4	DHP-220x8
Operating wrench	4	8
Work Pressure	700 bar	700 bar
Voltage/Frequency	220V / 50Hz	220V / 50Hz
Power	1.1 KW x 2	1.1 KW x 2
Tank capacity	13 L	13 L
Flow(low-mid-High)	14 - 3.2 - 1.6 L/min	14 - 3.2 - 1.6 L/min
Cooler	Yes	Yes
Weight	59.6	63.5
Output Port Size	8 x 1/4" NPT	16 x 1/4" NPT
Volume	500 x 580 x 531mm	500 x 620 x 531mm



Model	DHP-380x4	DHP-380x8
Operating wrench	4	8
Work Pressure	700 bar	700 bar
Voltage/Frequency	380V / 50Hz	380V / 50Hz
Power	2.2 KW x 2	2.2 KW x 2
Tank capacity	40 L	40 L
Flow(low-mid-High)	20 - 8.2 - 2.8 L/min	20 - 8.2 - 2.8 L/min
Cooler	Yes	Yes
Weight	63.5	68.5
Output Port Size	8 x 1/4" NPT	16 x 1/4" NPT
Volume	650 x 442 x 680 mm	650 x 442 x 680 mm

DHP 2.2KW x 2 (380v)

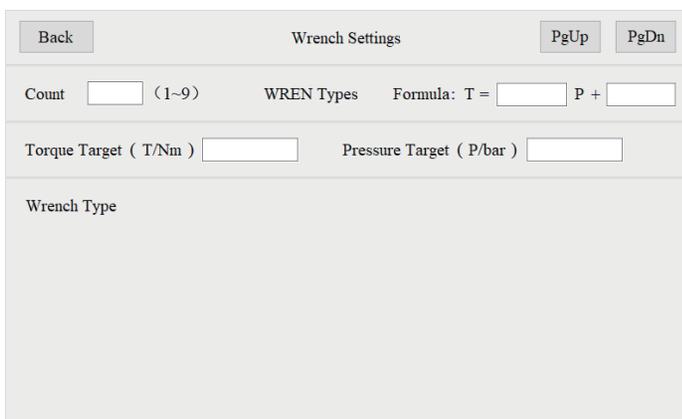




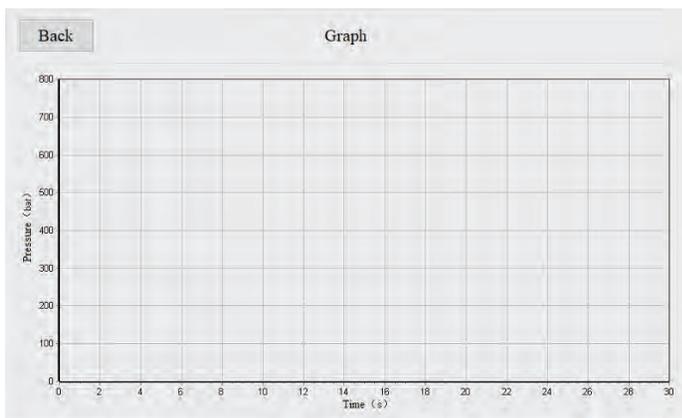
## KLW4230 Smart Torque Pump

- Electric three-stage flow, high efficiency and stability. Optional valve group connection.
- Efficient heat dissipation when the built-in cooling system is running.
- 7 inch industrial color LCD screen is sensitive and reliable 0~700 bar pressure regulation, and corresponding torque value display, background big data analysis storage, can extract data. Manual and automatic modes can be switched.
- Displays and can set the time and date.
- Manual or automatic pressing mode, oil return monitoring in place, avoid misoperation, automatic mode optional bolt tightening judgment function.
- According to the wrench selection, set the target torque value, automatically calculate the torque data when the working pressure is pressed, and display the torque data in real time, and can also display the pressure curve.
- Project settings, so that bolt pressure records can be classified and stored.
- Power supply voltage monitoring function, real-time monitoring of power supply voltage frequency, alarm when the hydraulic pump does not meet the working requirements.
- Motor overheating protection, system alarm shutdown.
- User rights management, the hydraulic pump cannot be operated normally without entering the authorization password correctly.

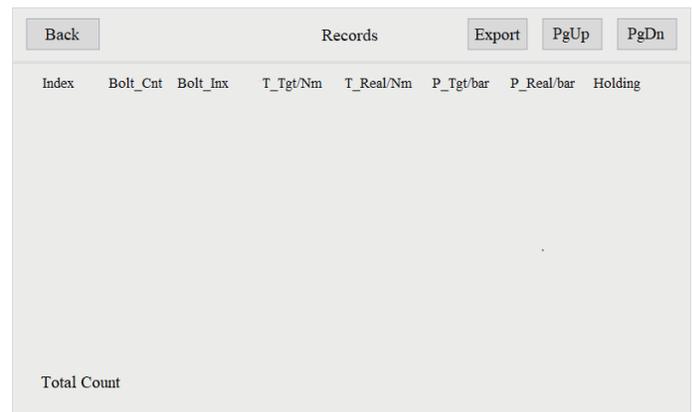
\* LCD display remote control to set torque value



Selection for Torque Wrench setting

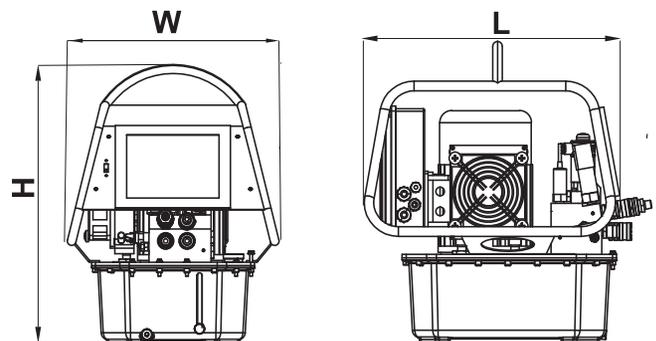


The curve shows observations



Record view export

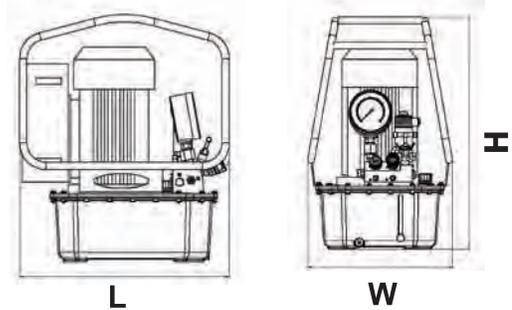
Type	KLW4230
Work Pressure	70Mpa
Drive	Electrical
Voltage	220V / 50Hz
Power	1.5KW
Oil Tank	8 L
Flow	7 - 1.6 - 0.8 L/min
Cooler	Yes
Weight (Kg)	30
Oil Output port	4 x 1/4" NPT
LxWxH(mm)	425×386×501



## KLW4010EXII Standard Version



- Three stage pump.
- Explosion-proof class EXDII.BT4, protection class IP55.
- Optionally connected to multiple torque wrenches for operation.
- Comes with oil cooler for continuous operation, with outer protection steel frame  $\Phi 100$  pressure gauge, aluminum oil tank with oil level indicator 70-700bar adjustable pressure.
- Continuous operation design with optional hose length.



Type	KLW4010EX	KLW4010EX-FP4
Pressure	700Bar	700Bar
Drive	Electrical	Electrical
Voltage	220V / 50Hz	220V / 50Hz
Power	1.5 kW	1.5 kW
Usable Oil	8 L	8 L
Flow Rate	7 - 1.6 - 0.8 L/min	7 - 1.6 - 0.8 L/min
Weight	46Kg	48Kg
Oil Port	4 x 1/4" NPT	8 x 1/4" NPT
LxWxH	455 x 336 x 533mm	455 x 336 x 553mm

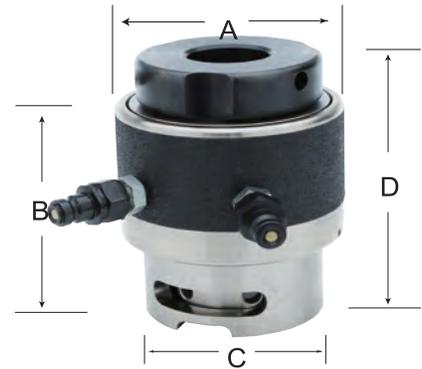
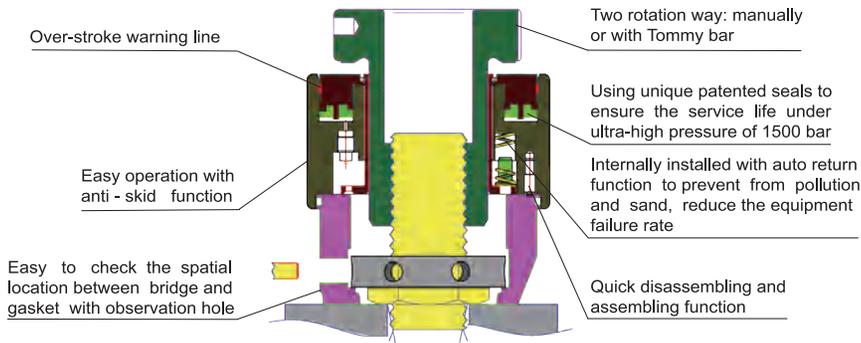
## KLW4230EXII Smart Version

- Three stage pump.
- 7" industrial color LCD screen is sensitive and reliable.
- Manual or automatic operating mode, oil return monitoring in place, avoid mis-operation, automatic mode optional for bolt tightening judgment function.
- According to the wrench selection, the target torque value is set and the working pressure is automatically calculated.
- The torque data during operation is displayed in real time and the pressure curve can also be displayed.
- Project settings, so that bolt operation records can be classified and stored.
- Power supply voltage monitoring function, real-time monitoring of power supply voltage frequency, alarm when the pumping does not meet the working requirements.
- Motor overheating protection, system alarm shutdown.
- User rights management, if the authorization password is not entered correctly, the pump cannot be operated normally.



Type	KLW4230EXII	KLW4230EXII-FP4
Pressure	700Bar	700Bar
Drive	Electrical	Electrical
Voltage	220V / 50Hz	220V / 50Hz
Power	1.5 kW	1.5 kW
Usable oil	8 L	8 L
Flow Rate	7 - 1.6 - 0.8 L/min	7 - 1.6 - 0.8 L/min
Weight	63.5	65.5
Oil Port	4 x 1/4" NPT	8 x 1/4" NPT
LxWxH	455 x 336 x 533mm	455 x 336 x 553mm

High strength material, small dimension with compact structure, light, convenient to carry.



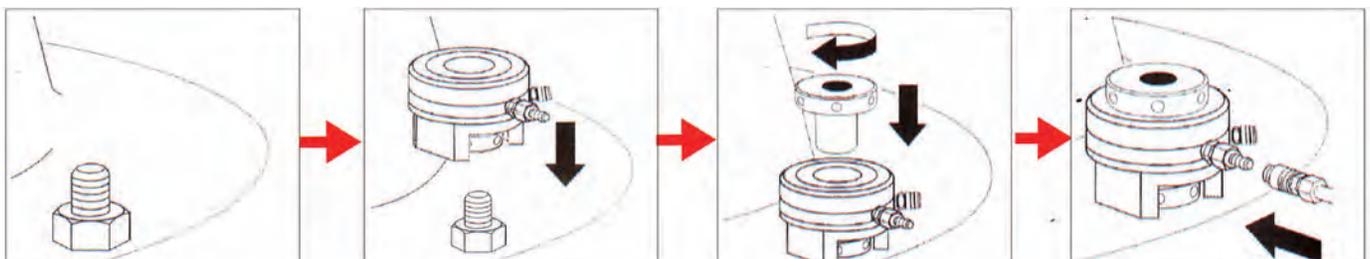
Load Cell	Bolt Size	Tool Load KN	Effect Area mm <sup>2</sup>	Maximum Stroke mm	Cylinder Retract	Maximum Working Pressure bar	Weight kg	A mm	B mm	C mm	D mm
HSR 0	3/4"	M20	160	1067	10	manual retract	≈2.5	66.8	92.5	63	113.5
	7/8"	M22							92.5	63	113.5
HSR 1	1"	M24	280	1867	10	auto retract	≈3.7	85	116.5	68	141.5
	M27	116.5							68	141.5	
	M30	119.5							76	144.5	
HSR 2	1.1/8"	M24	450	3003	10	auto retract	≈5.5	103	116.5	75	141.5
	M27	116.5							75	141.5	
	M30	119.5							80	144.5	
	M33	122.5							84	147.5	
HSR 3	1.3/8"	M36	660	4400	10	auto retract	≈7.5	118	125.5	88.5	150.5
	M33	122.5							92	149.5	
	M36	125.5							96	152.5	
	M39	129							105	156	
	M42	132							104.5	159	
HSR 4	1.1/2"	M39	1000	6669	10	auto retract	≈11.5	140.5	131.5	112	163.5
	M42	134.5							114	166.5	
	M45	138							126	170	
	M48	141							123	173	
	2"	144							128	176	
	M52	148							134	187	
HSR 5	2.1/4"	M56	1500	10002	10	auto retract	≈18.5	175.5	154.5	148	193.5
	M60	154.5							148	193.5	
	M64	161							153	200	
	M68	161							153	200	
	M70	161							153	200	
	2.3/4"	167							165	206	
	M72	167							172	216	
HSR 6	3"	M76	2500	16670	10	auto retract	≈33	219	174	182	223
	M80	174							182	223	
	M85	180							190	229	
	M90	186							205	235	
	M90	186							230	241	
HSR 7	3.1/2"	M95	3200	21336	10	auto retract	≈47	252	186	230	241
	M100	192							235	247	
	4"	199							242	254	
	M105	199							255	264	
HSR 8	4"	M110	4100	27336	10	auto retract	≈63.5	283	199	255	264
	M115	205							260	270	
	4.1/2"	212							270	277	
HSR 9	M115 M125	4857	32380	10	auto retract	1,500	≈74	318	225	272	290
HSR 10	M130 M145	7068	47121	10	auto retract	1,500	≈130	375	250	312	335

WREN offers all kinds of customized products to meet different working conditions.

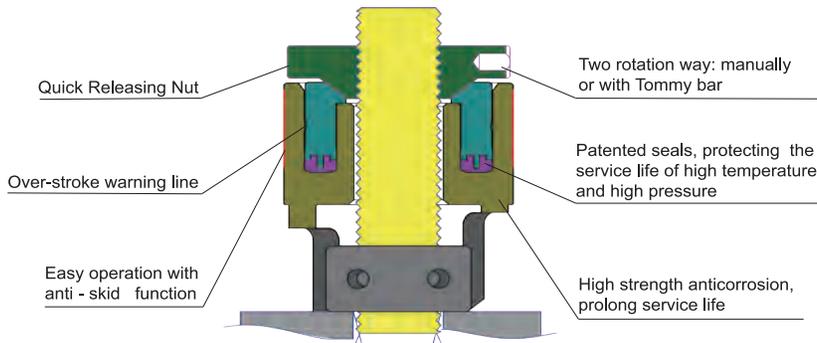
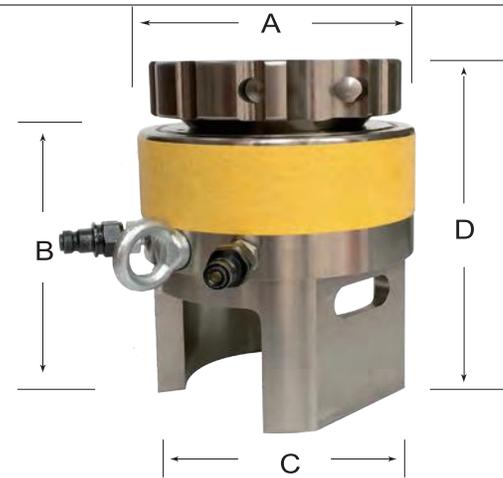
- Multi-stage Cylinder Design
- Big load with small OD, suitable for the operation in limited space
- Spring return design, Over stroke prevention, frequent use
- 700 - 1350bar working pressure
- Driven by Super High Pressure Hand Pump or Electric Pump
- Internally installed explosion-proof device for safety protection



Model	Maximum Working Pressure bar	Tools Load KN	Maximum Stroke mm	Effect Area mm <sup>2</sup>	Outside Diameter mm	Stud Size	Hex Size mm	Weight kg
HTE24	1,350	307	7	2,274	59	M24	36	≈5
HTE30	1,350	461	7	3,417	72	M30	46	≈6.6
HTE33	1,350	595	7	4,407	79	M33	50	≈8
HTE36	1,350	680	10	5,037	84.5	M36	55	≈10.7
HTE39	1,350	800	10	5,926	91.5	M39	60	≈12.8
HTE42	1,350	922	10	6,830	98.5	M42	65	≈16.1
HTE45	1,350	1086	10	8,047	107	M45	70	≈20.8
HTE48	1,350	1296	10	9,604	116	M48	75	≈22
HTE56	1,350	1660	10	12,296	131	M56	85	≈24
HTE64	1,250	2350	10	18,800	147.8	M64	95	≈47.2



WST series subsea tensioner is designed with quick releasing nut for operation trustiness and improve working. High pressure hose can be supplied from 5 to 210 meters. The hose reel assembly is available.



Quick Releasing Nut



Tool Cell	Bolt Size	Maximum Working Pressure bar	Tool Load KN	Effect Area mm <sup>2</sup>	Maximum Stroke mm	Weight kg	A mm	B mm	C mm	D mm
WST1	3/4" M20	1,500	140	943	20	≈1.7	66	96.5	48	117
	7/8" M22									
WST2	M24	1,500	239	1596	30	≈3.7	82	127	60	147
	M27									
	1-1/8" M30									
WST3	1-1/4" M33	1,500	380	2533	30	≈6.0	97	137	77	163
	1-3/8" M36									
WST4	1-1/2" M39	1,500	551	3676	30	≈7.0	111	145.5	90	169.25
	1-5/8" M42									
WST5	1-3/4" M45	1,500	880	5868	30	≈11.2	136	158	114	189
	1-7/8" M48									
	2" M52									
WST6	M56	1,500	1564	10433	30	≈21.3	177	180.5	140	223
	2-1/4" M60									
	2-1/2" M64									
	2-3/4" M72									
WST7	M76	1,500	2576	17174	30	≈33.6	217	202	180	255.25
	3" M80									
	3-1/4" M85									
	3-1/2" M90									

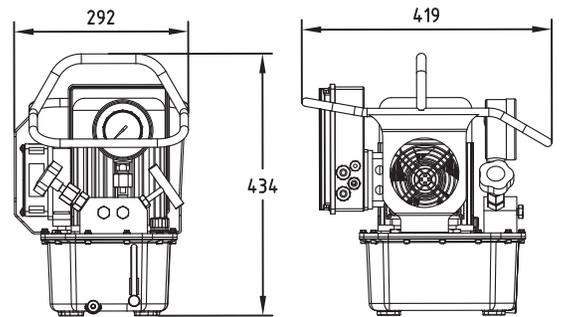
## HLP3-20 Electrical Tensioner Pump

The Pump with cooling system can be used continuously for 24 hours.

- Single-Acting, high performance
- Can be used for bolt tensioner in shipping vessel and wind power industry
- Accurately adjust output pressure :2000bar
- Easy to be connected with quick releasing couplings
- Convenient to carry with compact design



Model	HLP3-20A	HLP3-20D	HLP3-20X
Voltage/Frequency	220V/50Hz	115V/60Hz	100-250V/50-60Hz
Tank capacity	5.5L		
Flow(low-High)	5.5 - 0.45 L/min	4.2 -0.45 . /min	5.0 - 0.45 L/min
Max Output Pressure	2000Bar	2000Bar	2000Bar
Output Port Size	2 x 1/4" BSP		
Power	1.1KW	0.9KW	1.5KW
Weight	27kg		
Dimension	419 x 292 x 434 mm		

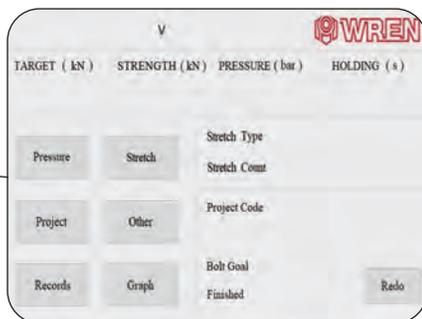


## HLP3-20N Air Tensioner Pump

Model	HLP3-20N
Air In	4 - 8 Bar
Tank capacity	6 L
Flow(low-High)	5.5 - 0.45L/min
Max Output Pressure	2000 Bar
Output Port Size	2 x 1/4" BSP
Power	3KW
Weight	24 kg
Dimension	419 x 267 x 434 mm

BH series Hydraulic Hose	<b>BH84</b>
Maximum Operation Pressure	1800Bar
Inside & Outside Diameter	5 x 11
Available Quick Coupler	C116





\*LCD display remote control to set tensile value

Type	HMP-ZN
Work Pressure	2000bar
Drive	Electrical
Voltage	220v/50Hz
Power	1.5kW
Oil Tank	8 L
Flow	4 - 0.5 L/min
Cooler	Yes
Weight(kg)	32kg
Oil Output Port	G1/4
LxWxH(mm)	456x374x514

## HMP-AEX Explosion-proof Tensioner Pump

- Two Stage high pressure Tensioner Pump
- Explosion-proof grade EXDIIBT4, protection grade IP55
- High-precision pressure gauge, easy to accurately adjust the pressure between 700~2000bar various pressure adjustments, low noise, fast uppressure, continuous operation
- It is suitable for routine field operation and also suitable for high-risk occasions

Type	HMP-AEX
Pressure	2000bar
Drive	Electrical
Voltage	220v/50Hz
Power	1.5kW
Usable oil	8 L
Flow	4 - 0.5 L/min
Weight(kg)	47
Oil Port	2 x 1/4" BSP
LxWxH(mm)	455x336x533

## HMP-ZN Smart Tensioner Pump

- Electric three-stage flow, high efficiency and stability. Optional valve group connection
- Efficient heat dissipation when the built-in cooling system is running
- 7 inch industrial color LCD screen is sensitive and reliable
- 0~2000 bar pressure regulation, and corresponding tensile value display
- Background big data analysis storage to extract data. Manual and automatic modes can be switched
- Display and set the time and date
- Automatic pressure holding function
- According to the selection of the tensioner, set the target tensile value, automatically calculate the working pressure and display the tensile force data in real time and can also display the pressure curve
- Project settings can make bolt pressure record classified and stored
- Power supply voltage monitoring function, real-time monitoring of power supply voltage frequency, alarm when the Tensioner Pump does not meet the working requirements. Motor overheating protection, system alarm shutdown
- User rights management, improper input of authorization password can not operate the Tensioner Pump normally



# Hydraulic Cylinder series

## Hydraulic cylinder (700bar)

### 1. Force selection:

Considering the impedance loss of the seal ring and the supporting impedance loss of the cylinder with the piston, the force of WREN cylinder is 94%~95% of the set force. When the cylinder needs to work strictly and continuously, it is recommended to choose a cylinder whose tonnage is higher than the load itself, usually calculated by 70%~80% of the cylinder.

### 2. Stroke selection:

If the space permitted, please choose a cylinder whose stroke is longer than the practical need to add the system expandable capacity.

### 3. Type selection:

There are basically two types of cylinders: single-acting cylinder (spring or load returning) and double-acting cylinders. CLS-series and CLL-series single-acting cylinders have no set of spring and can only be returned by load or gravity. What do you need cylinders? To pull or lift or both?

(Under the hydraulic reaction, single-acting one can just lift, but double-acting one can both lift and pull).

### 4. Quantity selection:

Whether you need several cylinders to work synchronously or not?

### 5. Warning when install and operate:

Make sure that the load is located in the centre of the cylinder and the load direction is in accordance with the cylinder.

The allowable eccentric loads must be within 2.5% of the technical requirements of cylinders.

By fitting the flange on the neck threads to install the cylinder.

Eliminate the air in the system.

It is forbidden to remove the hydraulic pump connection when the cylinder is under load.

To avoid the cylinder piston over extended.

When there is some omen of oil leaking, please check it immediately.

Keep the hydraulic system clean.

Please keep away from heat, fire, rain, seawater, and moisture and so forth.

Keep the hydraulic system clean.

Please keep away from heat, fire, rain, seawater, and moisture and so forth.

Please maintain and inspect the cylinder on time.

The piston screw and base accessories must be connected to the piston end completely.

Please use standard cylinder oil.

Cylinder fitted with hose quick coupler can't be used for applications of releasing pressure urgently and forming shock pressure. When the quick coupler in the pulling end is blocked completely, it is forbidden to operate double-acting cylinder. Make sure the quick coupler is firmly tightened. If the cylinder fitted with self-conditioned quick coupler stops working suddenly, the most possible case is that the fluid flow is blocked due to the loosening of the quick coupler.

## Nonstandard cylinder and special cylinders

We can customize nonstandard cylinders or ones over 5000KN(500Tons) on your requirements.

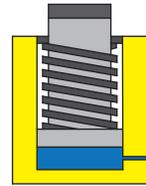
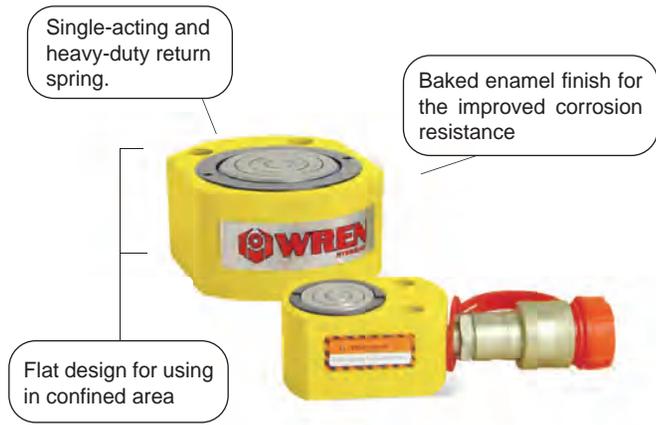
1. How much a tonnage force is needed?

2. You should consider both the stroke and the height after retraction.

3. Whether all the threads are needed on the piston, neck or base or not?



# RSM series Single-Acting Low Weight Cylinder

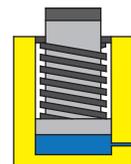


Capacity:5~150Ton  
 Stroke:6~16mm  
 Maximum Operating Pressure:700bar

## RSM Series Selection Chart

Capacity (Ton)	Stroke (mm)	Model	Min Height (mm)	Outside Diameter (mm)	Effective Area (cm <sup>2</sup> )	Oil Capacity (cm <sup>3</sup> )	Saddle Diameter (mm)	Weight (Kg)
5	6	RSM50	32	59 × 42	7	4	26	1.0
10	11	RSM100	42	83 × 56	14.5	16	38	1.4
20	11	RSM200	51	100 × 75	28.2	31	50	3.1
30	13	RSM300	58	118 × 95	41.8	54	63	4.5
50	16	RSM500	66	140 × 115	63.6	101	70	6.8
75	16	RSM750	79	166 × 140	103.8	166	63	11.3
100	16	RSM1000	85	178 × 153	132.7	212	75	14.5
150	16	RSM1500	100	216 × 191	201	321	112	26.3

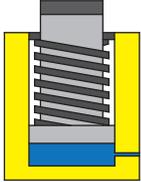
# RCS series Single-Acting Low Weight Cylinder



Capacity:10~150Ton  
 Stroke:38~62mm  
 Maximum Operating Pressure:700bar

## RCS Series Selection Chart

Capacity (Ton)	Stroke (mm)	Model	Min Height (mm)	Outside Diameter (mm)	Effective Area (cm <sup>2</sup> )	Oil Capacity (cm <sup>3</sup> )	Saddle Diameter (mm)	Weight (Kg)
10	38	RCS101	88	70	14.5	55	38	4.1
20	45	RCS201	98	92	28.2	127	50	5.0
30	61	RCS302	117	102	41.8	255	65	6.8
50	60	RCS502	122	127	63.6	381	70	10.9
100	57	RCS1002	141	167	132.7	756	90	22.7
150	51	RCS1502	206	205	201.1	1025	138	42.1



Capacity: 5~100Ton  
 Stroke: 16~362mm  
 Maximum Operating Pressure: 700bar

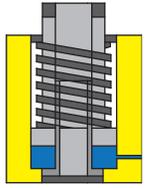


## RC Series Selection Chart

Capacity (Ton)	Stroke (mm)	Model	Min Height (mm)	Outside Diameter (mm)	Effective Area (cm <sup>2</sup> )	Oil Capacity (cm <sup>3</sup> )	Saddle Diameter (mm)	Thread Size	Thread Length (mm)	Weight (Kg)
5	16	RC50	42	42 × 59	7	11	26	1 1/2"-16	28	1.1
5	25	RC51	110	38	6.5	16	25.5	1 1/2"-16	28	1.1
5	76	RC53	165	38	6.5	50	25.5	1 1/2"-16	28	1.5
5	127	RC55	215	38	6.5	83	25.5	1 1/2"-16	28	1.9
5	177	RC57	273	38	6.5	115	25.5	1 1/2"-16	28	2.4
5	232	RC59	323	38	6.5	151	25.5	1 1/2"-16	28	2.8
10	26	RC101	89	57	14.5	38	35	2 1/4"-14	27	1.8
10	54	RC102	121	57	14.5	78	35	2 1/4"-14	27	2.3
10	105	RC104	171	57	14.5	152	35	2 1/4"-14	27	3.3
10	156	RC106	247	57	14.5	226	35	2 1/4"-14	27	4.4
10	203	RC108	298	57	14.5	294	35	2 1/4"-14	27	5.4
10	257	RC1010	349	57	14.5	373	35	2 1/4"-14	27	6.4
10	304	RC1012	400	57	14.5	441	35	2 1/4"-14	27	6.8
10	356	RC1014	450	57	14.5	516	35	2 1/4"-14	27	8.2
15	25	RC151	124	70	19.6	49	38	2 3/4"-16	30	3.3
15	51	RC152	149	70	19.6	100	38	2 3/4"-16	30	4.1
15	101	RC154	200	70	19.6	198	38	2 3/4"-16	30	5.0
15	152	RC156	271	70	19.6	298	38	2 3/4"-16	30	6.8
15	203	RC158	322	70	19.6	398	38	2 3/4"-16	30	8.2
15	254	RC1510A	373	70	19.6	498	38	2 3/4"-16	30	9.5
15	305	RC1512A	423	70	19.6	598	38	2 3/4"-16	30	10.9
15	356	RC1514A	474	70	19.6	697	38	2 3/4"-16	30	11.8
25	26	RC251	139	85	33.2	86	50	3 5/16"-12	49	5.9
25	50	RC252	165	85	33.2	166	50	3 5/16"-12	49	6.4
25	102	RC254	215	85	33.2	339	50	3 5/16"-12	49	8.2
25	158	RC256	273	85	33.2	525	50	3 5/16"-12	49	10.0
25	210	RC258	323	85	33.2	697	50	3 5/16"-12	49	12.2
25	261	RC2510A	374	85	33.2	867	50	3 5/16"-12	49	14.1
25	311	RC2512A	425	85	33.2	1033	50	3 5/16"-12	49	16.3
25	362	RC2514	476	85	33.2	1202	50	3 5/16"-12	49	17.7
30	209	RC308	387	102	44.2	923	50			18.1
50	51	RC502	176	127	70.8	361	71	5"-12	55	15.0
50	101	RC504	227	127	70.8	715	71	5"-12	55	19.1
50	159	RC506	282	127	70.8	1125	71	5"-12	55	23.1
50	337	RC5013	460	127	70.8	2386	71	5"-12	55	37.6
75	156	RC756	285	147	103.8	1619	71	5 3/4"-12	44	29.5
75	333	RC7513A	492	147	103.8	3456	71	5 3/4"-12	44	59.0
100	168	RC1006	357	177	132.7	2229	71	6 7/8"-12	44	59.0
100	260	RC10010	449	177	133.3	3450	71	6 7/8"-12	44	72.6

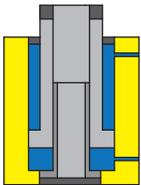


Capacity:12~100Ton  
 Stroke:8~155mm  
 Maximum Operating Pressure:700bar



### RCH Series Selection Chart

Capacity (Ton)	Stroke (mm)	Model	Min Height (mm)	Outside Diameter (mm)	Effective Area (cm <sup>2</sup> )	Oil Capacity (cm <sup>3</sup> )	Plunger Diameter (mm)	Hollow Diameter (mm)	Weight (Kg)
12	8	RCH120	55	69	17.9	14	35	19	1.5
12	42	RCH121	120	69	17.9	75	35	19	2.8
12	76	RCH123	184	69	17.9	136	35	19	4.4
20	50	RCH202	162	99	30.5	152	55	26.9	7.7
20	155	RCH206	306	99	30.5	473	55	28	14.1
30	64	RCH302	179	115	47.7	305	63	34	10.9
30	155	RCH306	331	115	47.7	739	63.5	34	21.8
60	77	RCH603	248	160	84.2	648	92	53	28.1
60	152	RCH606	325	160	84.2	1280	92	53	35.4
100	76	RCH1003	254	212	135.3	1028	127.0	78	63.0



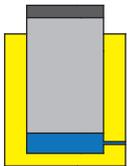
Capacity:30~150Ton  
 Stroke:38~258mm  
 Maximum Operating Pressure:700bar



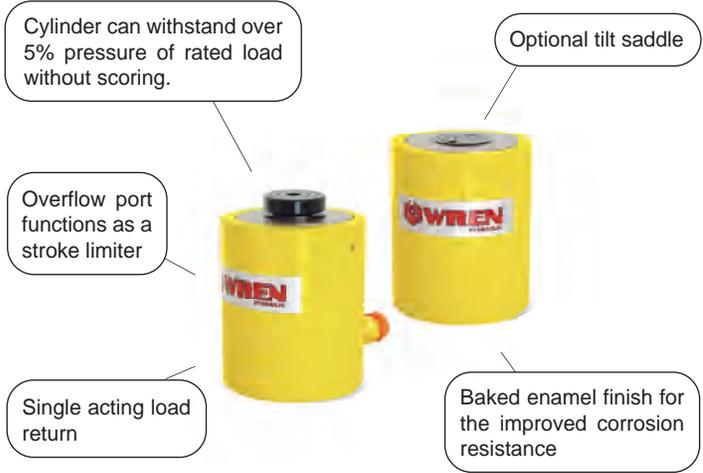
## RRH Series Selection Chart

Capacity (Ton)		Stroke (mm)	Model	Min Height (mm)	Outside Diameter (mm)	Effective Area (cm <sup>2</sup> )		Oil Capacity (cm <sup>3</sup> )		Plunger Diameter (mm)	Hollow Diameter (mm)	Weight (Kg)
Push	Pull					Push	Pull	Push	Pull			
34	23	178	RRH307A	331	115	47.7	32.4	849	576	63	34	21
30	23	258	RRH3010A	431	115	47.7	32.4	1230	836	63	34	27
60	42	89	RRH603A	248	160	84.2	56.2	749	500	95	53	28
60	42	165	RRH606A	324	160	84.2	56.2	1389	927	95	53	35
60	42	257	RRH6010	438	160	84.2	56.2	2164	1444	95	53	45
100	68	38	RRH1001A	166	212	135.2	87.1	513	331	127	79	33
100	68	76	RRH1003A	255	212	135.2	87	1027	661	127	78	61
100	68	153	RRH1006A	343	212	135.2	87	2068	1331	127	78	79
100	68	253	RRH10010A	443	212	135.2	87	3420	2201	127	78	106
150	75	200	RRH1508	349	247	205	106.8	4100	2136	152	78	111

# CLS series Single-Acting High Tonnage Cylinder

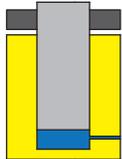


Capacity:50~1000Ton  
 Stroke:50~300mm  
 Maximum Operating Pressure:  
 700bar



## CLS Series Selection Chart

Capacity (Ton)	Stroke (mm)	Model	Min Height (mm)	Outside Diameter (mm)	Effective Area (cm <sup>2</sup> )	Oil Capacity (cm <sup>3</sup> )	Saddle Diameter (mm)	Weight (Kg)
50	50	CLS502A	128	125	70.9	355	71	4
50	100	CLS504A	178	125	70.9	709	71	18
50	150	CLS506	228	125	70.9	1064	71	23
50	200	CLS508A	278	125	70.9	1418	71	28
50	250	CLS5010A	328	125	70.9	1773	71	33
50	300	CLS5012A	378	125	70.9	2127	71	38
100	50	CLS1002A	143	164	132.7	664	71	24
100	100	CLS1004	193	164	132.7	1327	71	32
100	150	CLS1006	243	164	132.7	1991	71	40
100	200	CLS1008A	293	164	132.7	2654	71	49
100	250	CLS10010	343	164	132.7	3318	71	58
100	300	CLS10012	393	164	132.7	3981	71	66
150	50	CLS1502	165	209	201	1005	130	43
150	100	CLS1504	215	209	201	2010	130	55
150	150	CLS1506	265	209	201	3015	130	69
150	200	CLS1508	315	209	201	4020	130	82
150	250	CLS15010	365	209	201	5025	130	95
150	300	CLS15012	415	209	201	6030	130	108
200	50	CLS2002	193	235	265.9	1330	130	66
200	150	CLS2006	293	235	265.9	3989	130	101
200	250	CLS20010A	393	235	265.9	6648	130	136
250	50	CLS2502	193	275	366.4	1832	150	90
250	150	CLS2506	293	275	366.4	5496	150	137
250	250	CLS25010	393	275	366.4	9160	150	184
300	50	CLS3002	235	310	456.2	2281	139	137
300	150	CLS3006	335	310	456.2	6843	139	198
300	250	CLS30010	435	310	456.2	11405	139	258
400	50	CLS4002	265	350	559.9	2800	159	200
400	150	CLS4006	365	350	559.9	8399	159	275
400	250	CLS40010	465	350	559.9	13998	159	352
500	50	CLS5002	295	400	730.6	3656	228	289
500	150	CLS5006	395	400	730.6	10967	228	390
500	250	CLS50010	495	400	730.6	18278	228	489
600	50	CLS6002	310	430	855.3	4277	194	350
600	150	CLS6006	410	430	855.3	12830	194	465
600	250	CLS60010	510	430	855.3	21383	194	582
800	50	CLS8002	355	505	1176.3	5882	224	549
800	150	CLS8006	455	505	1176.3	17645	224	709
800	250	CLS80010	555	505	1176.3	29408	224	870
1000	50	CLS10002	385	560	1465.7	7329	360	729
1000	150	CLS10006	485	560	1465.7	21986	360	921
1000	250	CLS100010	585	560	1465.7	36643	360	1113



Capacity:50~1000Ton  
 Stroke:50~300mm  
 Maximum Operating Pressure:  
 700bar



## CLL Series Selection Chart

Capacity (Ton)	Stroke (mm)	Model	Min Height (mm)	Outside Diameter (mm)	Effective Area (cm <sup>2</sup> )	Oil Capacity (cm <sup>3</sup> )	Saddle Diameter (mm)	Weight (Kg)
50	50	CLL502	164	125	70.9	355	71	15
50	100	CLL504	214	125	70.9	709	71	20
50	150	CLL506	264	125	70.9	1064	71	25
50	200	CLL508	314	125	70.9	1418	71	30
50	250	CLL5010	364	125	70.9	1773	71	35
50	300	CLL5012	414	125	70.9	2127	71	40
100	50	CLL1002	187	165	132.7	664	71	30
100	100	CLL1004	237	165	132.7	1327	71	39
100	150	CLL1006	287	165	132.7	1991	71	48
100	200	CLL1008	337	165	132.7	2654	71	56
100	250	CLL10010	387	165	132.7	3318	71	64
100	300	CLL10012	437	165	132.7	3981	71	73
150	50	CLL1502	209	205	201	1005	130	53
150	100	CLL1504	259	205	201	2010	130	66
150	150	CLL1506	309	205	201	3015	130	78
150	200	CLL1508	359	205	201	4020	130	92
150	250	CLL15010	409	205	201	5025	130	104
150	300	CLL15012	459	205	201	6030	130	117
200	50	CLL2002	243	235	265.6	1330	130	83
200	150	CLL2006	343	235	265.6	3989	130	117
200	250	CLL20010	443	235	265.6	6648	130	152
250	50	CLL2502	249	275	366.4	1832	150	116
250	150	CLL2506	349	275	366.4	5496	150	162
250	250	CLL25010	449	275	366.4	9160	150	210
300	50	CLL3002	295	310	456.2	2281	139	173
300	150	CLL3006	395	310	456.2	6843	139	233
300	250	CLL30010	495	310	456.2	11405	139	293
400	50	CLL4002	335	350	559.9	2800	159	250
400	150	CLL4006	435	350	559.9	8399	159	327
400	250	CLL40010	535	350	559.9	13998	159	402
500	50	CLL5002	375	400	730.6	3656	228	367
500	150	CLL5006	475	400	730.6	10967	228	466
500	250	CLL50010	575	400	730.6	18278	228	567
600	50	CLL6002	395	430	855.3	4277	194	446
600	150	CLL6006	495	430	855.3	12830	194	562
600	250	CLL60010	595	430	855.3	21383	194	679
800	50	CLL8002	455	505	1176.9	5882	224	709
800	150	CLL8006	555	505	1176.9	17645	224	870
800	250	CLL80010	655	505	1176.9	29408	224	1029
1000	50	CLL10002	495	560	1466.4	7329	360	949
1000	150	CLL10006	595	560	1466.4	21986	360	1141
1000	250	CLL100010	695	560	1466.4	36643	360	1333

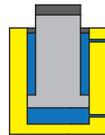
# CLRG series Double-Acting High Tonnage Cylinder



## Optional Tilt Saddle

Model	Dimension A/B	Graph	Application
CAT100	71/24		CLL 50T CLS 75T CLR 100T

CAT200	130/27		CLL 100T CLS 200T CLR 200T
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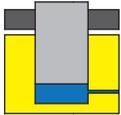
Capacity:10~1000Ton

Stroke:50~305mm

Maximum Operating Pressure:700bar

## CLR Series Selection Chart

Capacity (Ton)	Stroke (mm)		Model	Min Height (mm)	Outside Diameter (mm)	Effective Area (cm <sup>2</sup> )		Oil Capacity (cm <sup>3</sup> )		Saddle Diameter (mm)	Weight (Kg)
	Push	Pull				Push	Pull	Push	Pull		
10	4.1	254	CLR1010	409	76	14.5	5.9	368	149	33	12
10	4.1	305	CLR1012	457	76	14.5	5.9	442	180	33	14
50	22.6	150	CLR506	325	127	70.8	32.3	1062	484	70	30
50	22.6	300	CLR5012	475	127	70.8	32.3	2124	969	70	52
100	44	50	CLR1002	182	188	132.7	61.9	664	310	95	27
100	44	100	CLR1004	232	188	132.7	61.9	1327	619	95	33
100	44	150	CLR1006	282	188	132.7	61.9	1991	929	95	37
100	44	200	CLR1008	332	188	132.7	61.9	2654	1238	95	44
100	44	250	CLR10010	382	188	132.7	61.9	3318	1548	95	50
100	44	300	CLR10012	432	188	132.7	61.9	3981	1857	95	57
150	67.9	50	CLR1502	196	216	201	97	1005	485	115	47
150	67.9	100	CLR1504	246	216	201	97	2010	970	115	57
150	67.9	150	CLR1506	296	216	201	97	3015	1455	115	67
150	67.9	200	CLR1508	346	216	201	97	4020	1940	115	77
150	67.9	250	CLR15010	396	216	201	97	5025	2425	115	87
150	67.9	300	CLR15012	446	216	201	97	6030	2910	115	97
200	93	50	CLR2002	235	242	265.9	133.1	1329	665	130	67
200	93	150	CLR2006	335	242	265.9	133.1	3988	1996	130	92
200	93	250	CLR20010	435	242	265.9	133.1	6647	3327	130	117
250	107	50	CLR2502	236	288	366.4	152.6	1832	763	165	105
250	107	150	CLR2506	336	288	366.4	152.6	5496	2289	165	141
250	107	250	CLR25010	436	288	366.4	152.6	9160	3815	165	176
300	121	50	CLR3002	350	325	456.2	172.6	2281	863	190	204
300	121	150	CLR3006	412	325	456.2	172.6	6843	2589	190	252
300	121	250	CLR30010	512	325	456.2	172.6	11405	4315	190	299
400	138	50	CLR4002	370	367	559.9	196.8	2799	984	215	281
400	138	150	CLR4006	470	367	559.9	196.8	8399	2952	215	342
400	138	250	CLR40010	570	367	559.9	196.8	13998	4920	215	405
500	168	50	CLR5002	400	405	730.6	239.7	3653	1198	250	411
500	168	150	CLR5006	500	405	730.6	239.7	10959	3595	250	493
500	168	250	CLR50010	600	405	730.6	239.7	18265	5992	250	575
600	207	50	CLR6002	445	450	855.3	295.4	4277	1477	267	494
600	207	150	CLR6006	545	450	855.3	295.4	12830	4431	267	586
600	207	250	CLR60010	645	450	855.3	295.4	21383	7385	267	678
800	252	50	CLR8002	695	515	1164	360	5820	1800	320	759
800	252	150	CLR8006	595	515	1164	360	17460	5400	320	885
800	252	250	CLR80010	695	515	1164	360	29100	9000	320	1019
1000	380	50	CLR10002	535	580	1465.7	541.7	7328	2708	342	1012
1000	380	150	CLR10006	635	580	1465.7	541.7	21985	8125	342	1168
1000	380	250	CLR100010	735	580	1465.7	541.7	36418	13543	342	1325



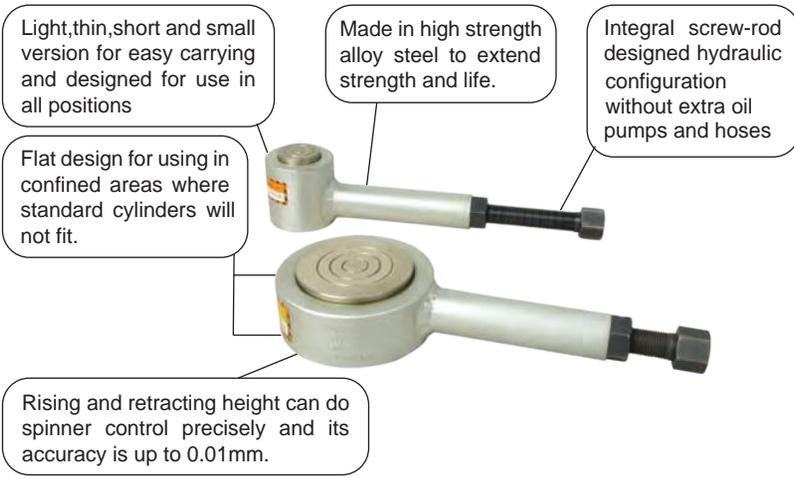
Capacity:60~520Ton  
 Stroke:45~50mm  
 Maximum Operating Pressure:  
 700bar



## CLP Series Selection Chart

Capacity (Ton)	Stroke (mm)	Model	Min Height (mm)	Outside Diameter (mm)	Effective Area (cm <sup>2</sup> )	Oil Capacity (cm <sup>3</sup> )	Saddle Diameter (mm)	Weight (Kg)
60	50	CLP602	125	140	86.6	432	96	15
100	50	CLP1002	137	175	143.1	716	126	26
160	45	CLP1602	148	220	227	1022	160	44
200	45	CLP2002	155	245	283.5	1276	180	57
260	45	CLP2502	159	275	366.4	1649	200	74
400	45	CLP4002	178	350	559.9	2519	250	134
520	45	CLP5002	192	400	730.6	3287	290	189

## SMC series Mechanical Cylinder



Capacity:5~50Ton  
 Stroke:5~25mm  
 Maximum Operating Pressure:  
 700bar

## SMC Series Selection Chart

Capacity (Ton)	Stroke (mm)	Model	Effective Area (mm)	Coll.Height (mm)	Ext.Height (mm)	Outside Diameter (mm)	Max Length (mm)	Min Length (mm)	Weight (Kg)
5	25	SMC0525	8.02	52	77	52	279	199	1.5
10	25	SMC1025	13.85	54	79	62	351	240	2.2
20	5	SMC2005	28.27	35	40	84	295	224	1.9
30	5	SMC3005	38.49	36	41	95	323	243	2.3
50	5	SMC5005	66.48	40	45	120	410	299	3.7

Equipped with a pressure regulating valve, to adjust the output pressure



The built-in high and low pressure switching valve, low pressure high flow rate output.

Aluminum titanium alloy, corrosion resistance, high strength, light weight, impact resistance, adapt to a variety of harsh environment.

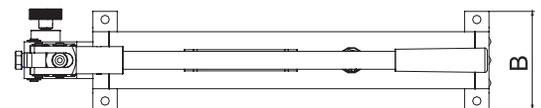
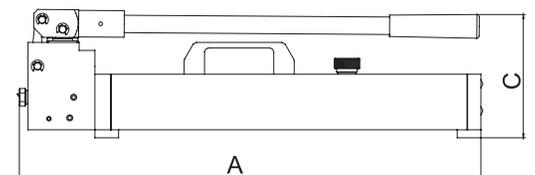
P-series hydraulic hand pumps are designed for cylinder and hydraulic bolt tensioner. It has two types of output pressure (700 bar and 1600 bar), and customers can order every size of oil tank for different equipment. WREN serves a wide range of accessory for this series, WREN serves a wide range of accessories with TUV certification for this series.



### P Series Hand Pump Table Parameters



TYPE	Max Pressure (bar)	Oil interface	Gauge interface
GA-3	700	3/8"NPT	1/4"NPT
GA20	2000	1/4"BSP	1/2"BSP
GA23	2500	M16×1.5	M16×1.5



### P Series Hand Pump Selection Char

Type	Pressure bar		One Stroke Oil mL		Full Tank Oil L	Available Oil L	Handle Force N	SIZE mm			Oil interface	Gauge interface	Weight Kg
	Low	HI	Low	HI				A	B	C			
<b>P392</b>	2.5	700	32	2.5	1.67	1.44	300	590	120	160	3/8" NPT	1/4" NPT	6.3
<b>P80</b>	2.5	700	32	2.5	2.25	1.98	300	590	120	170	3/8" NPT	1/4" NPT	8
<b>P160</b>	2.5	700	32	2.5	3.58	3.24	300	590	140	180	3/8" NPT	1/4" NPT	10
<b>16P392</b>	1.5	1600	32	2.5	1.67	1.44	350	636	120	170	1/4" BSP	1/2" BSP	6.5
<b>16P80</b>	1.5	1600	32	2.5	2.25	1.98	350	636	120	170	1/4" BSP	1/2" BSP	8.5
<b>16P160</b>	1.5	1600	32	2.5	3.58	3.24	350	636	140	190	1/4" BSP	1/2" BSP	10.5

## 28P Series Hand Pump Selection Chart

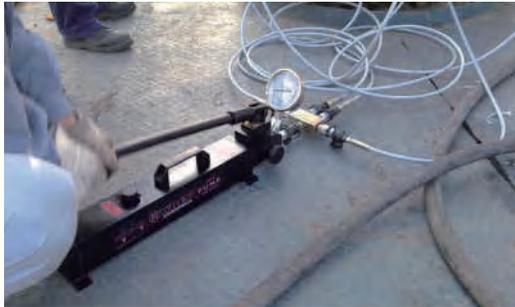
Type	28P80	28P160
Work Pressure Mpa (Low/Hi)	2.0/280	2.0/280
One Stroke Oil ml (Low/Hi)	32/0.9	32/0.9
Full Tank Oil L	2.26	3.58
Available Oil L	1.98	3.24
Size (A-B-C)	636/120/170	636/140/190
Oil interface	1/4"BSP	1/4"BSP
Gauge interface	1/2"BSP	1/2"BSP
Weight	8.5	10.5



Equipped with a pressure regulating valve to adjust the output pressure.(Max Pressure 2800bar)

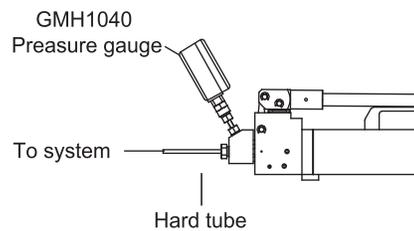
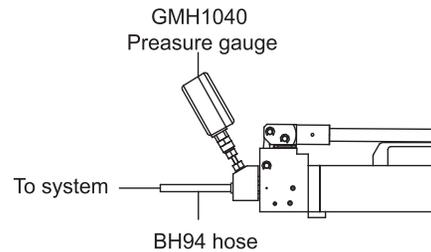
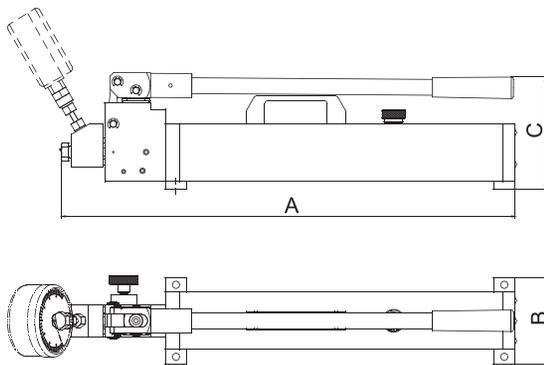
Aluminum titanium alloy corrosion resistance, high strength, light weight, impact resistance, adapt to a variety of harsh environment.

The built-in high and low pressure switching valve, low pressure high flow rate output.



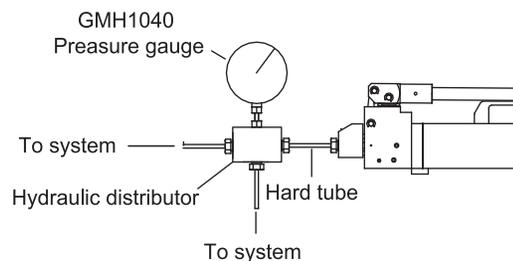
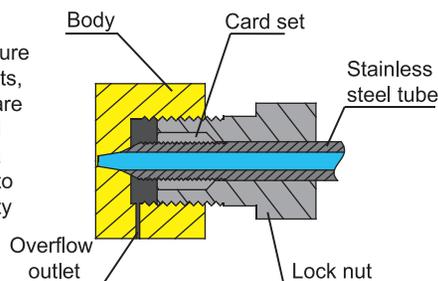
28P-series high pressure hydraulic hand pumps are designed for cylinders and bolt tensioners. It has an output pressure up to 2800 bar. WREN serves a wide range of accessories with TUV certification for this series.

## Ahead Pump Configure



### Spinal seal

Stainless steel high pressure joint seal in the spinal joints, with nut casing and pipe are tightly locked in the spinal canal surface to provide a 2800bar sealed. In order to achieve safety and stability requirements



Please choose the pump according to the below parameters

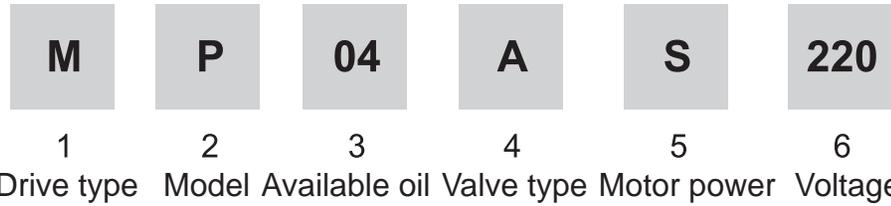


Pump Oil tank=4L or 8L



Pump Oil tank>8L

▼ Example for the discription of pump model:



- 1 Drive Model**  
M =Electric drive  
SM =Air drive
- 2 Model**  
P =Pump
- 3 Oil Capacity**  
04 = 4L  
08 = 8L  
13 = 13L  
18 = 18L  
24 = 24L  
32 = 32L  
56 = 56L
- 4 Valve Type**  
A =double-acting(pressure hold)  
B =single-acting(pressure hold)  
C =single-acting(pressure hold)  
D =single-acting  
H =double-acting(pressure hold)
- 5 Motor Power**  
S = 1.0KW  
T = 1.1KW,
- 6 Voltage**  
220=220V,  
Single phase, 50Hz  
380=380V,  
Three phase, 50Hz

Example :

Model:MP04HS220  
Max Pressure: 700bar  
Power: 1.0KW  
Valve type: Type H,solenoid valve (double acting,pressure hold)  
Oil Available: 4L  
voltage: 220V  
Frequency: 50Hz

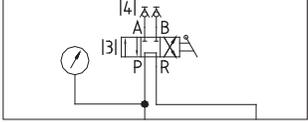
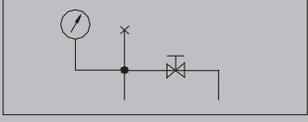
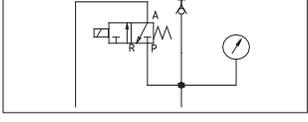
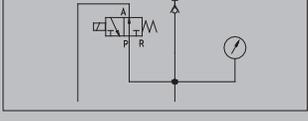
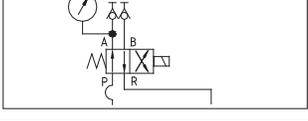
Parameters

Oil Capacity	Motor Power (KW)	Rated Pressure (bar)		Flow (L/min)		Voltage/Frequency Source of power	Max Pressure (bar)
		Low	High	Low	High		
4L	1.0	650	700	4	0.6	220V, 50Hz 380V, 50Hz;	700
≥8L	1.1			5.5/7.2	0.8		

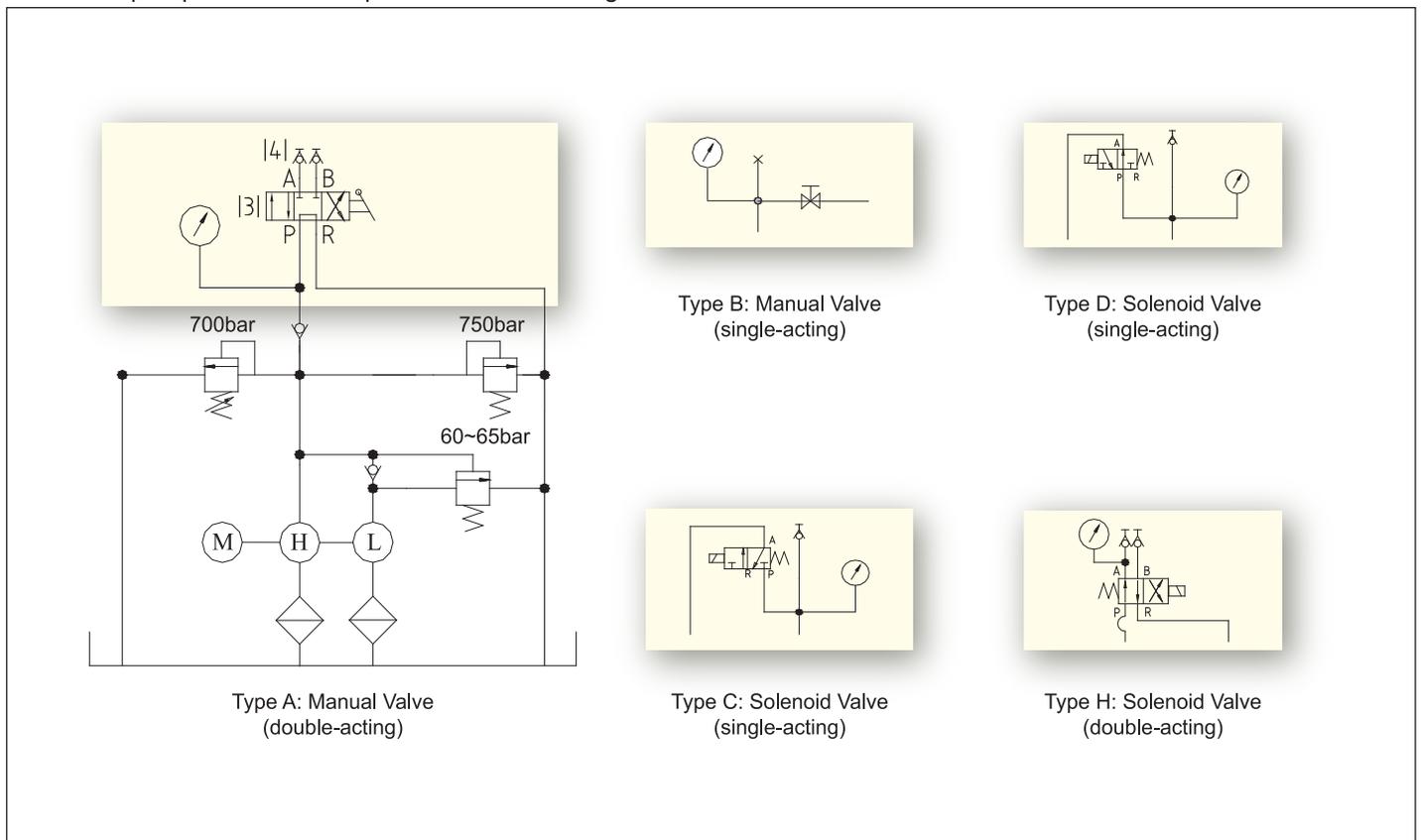
Valve models



## Universal valve block of MP series pump

Valve Block		Introduction To Basic Functions	Circuit Diagram
Type A: Manual Valve (double-acting)		By the manual valve to operate the double acting tank, it responds quickly, and the reservoir piston will stop at once and keep the pressure for long period.	
Type B: Manual Valve (single-acting)		By the manual valve to operate the single acting tank, easy control, responds quickly, and keep the pressure for long period.	
Type C: Solenoid Valve (single-acting)		By the solenoid valve to operate the single acting tank, easy control, responds quickly, and keep the pressure for long period.	
Type D: Solenoid Valve (single-acting)		Press a button on the solenoid valve to control the outputting and inputting oil of the oil pump.	
Type H: Solenoid Valve (double-acting)		By the solenoid valve to operate the double acting tank, it responds quickly, and the reservoir piston will stop at once and keep the pressure for long period.	

### MP series pump valve block replacement circuit diagram



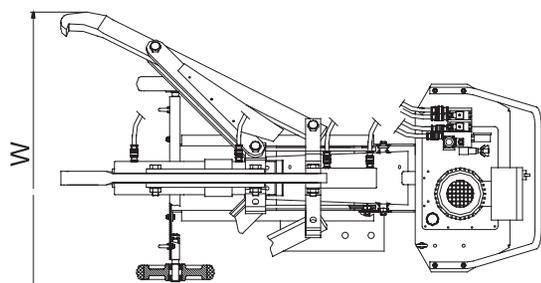
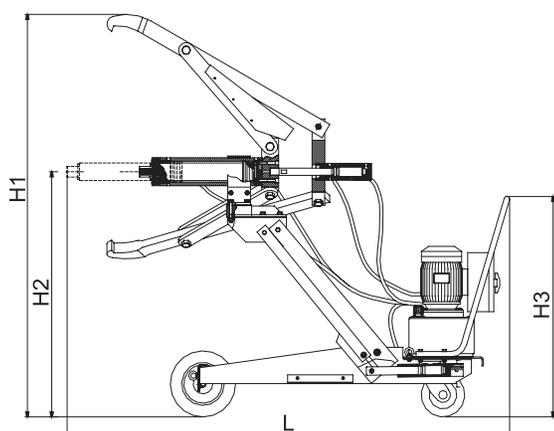
Above the valve block can be installed in any size of oil tank

LA Automatic Series Selection Table

Model	LA50L337	LA100L337
Capacity (T)	50	100
Min open (mm)	64	120
Pulling depth of Min.open (mm)	651	490
Max.open (mm)	1150	1150
Depth of max. open	559	340
Overall length (mm)	2590	2610
Regulation of puller center height (mm)	450~1120	590~1155
Cylinder stroke (mm)	337	337
Source of power (single phase)	220v/380v	220v/380v

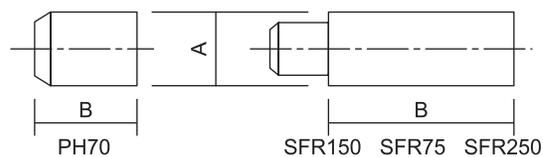


LA Automatic Series Dimension



Model	LA50L337	LA100L337
L (mm)	2590	2610
W (mm)	1264	1264
H1 (mm)	1829	1887
H2 (mm)	1114	1155
H3 (mm)	1002	1002

LA Automatic Series Affix

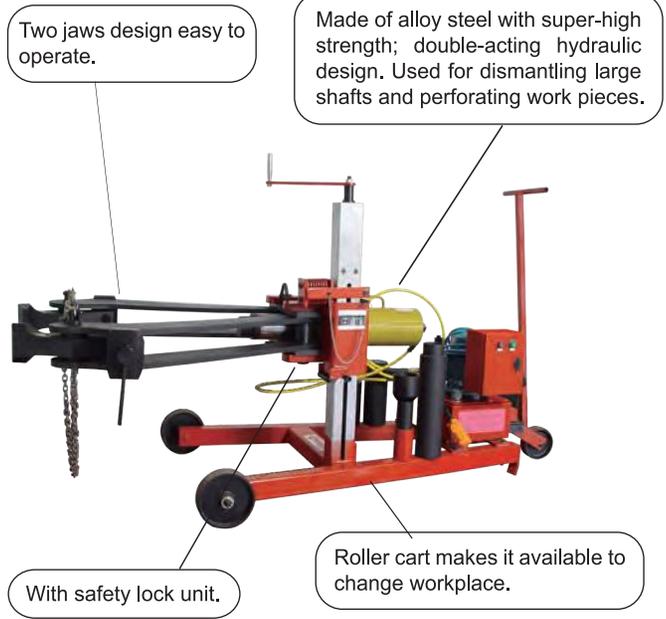


Model	LA50L337 A (mm)	LA100L337 A (mm)	B (mm)	Quantity
PH70	70	108	76	1
SFR150	70	108	77	1
SFR75	70	108	151	1
SFR250	70	108	251	1

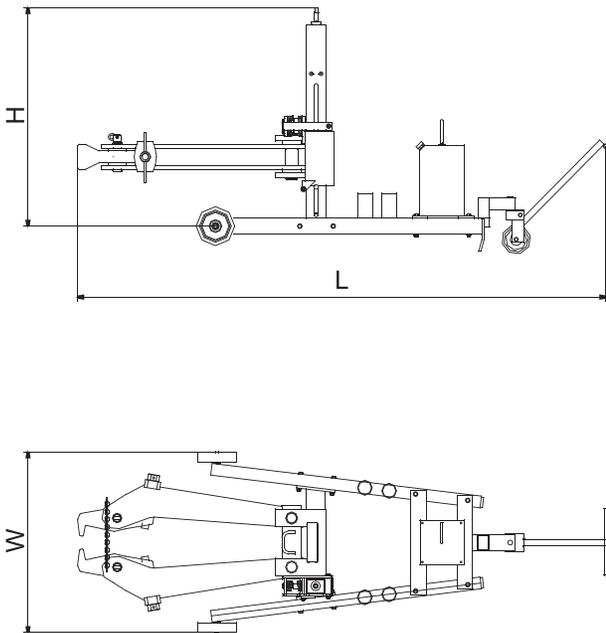


## LA Series Selection Table

Model	LA25200	LA25100	LA2560
Capacity (T)	200	100	60
Min open (mm)	381	381	140
Pulling depth of Min.open (mm)	970	1066	790
Max.open (mm)	1220	1219	1000
Depth of max. open (mm)	806	863	650
Overall length (mm)	3015	3015	2885
Regulation of puller center height (mm)	478-915	380-915	380-815
Cylinder stroke (mm)	250	250	250
Source of power (single phase)	220v/380v	220v/380v	220v/380v



## LA Series Dimension



### LA Series Affix

Model	A (mm)	B (mm)	C (mm)	LA25200	LA25100	LA2560
PHA	90			139	105	88
SFR		205		139	105	88
PHD			342	139	105	88

Model	LA25200	LA25100	LA2560
L (mm)	3015	3015	2885
H (mm)	1356	1276	1276
W (mm)	930	930	930



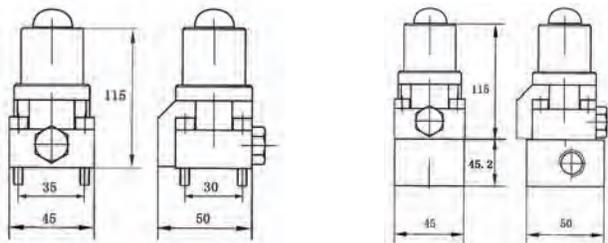


This directional stop valve is a steel ball type design to eliminate leakage. It has perfect and practical combinability, as a certain number of valves of the same or different function can be combined to achieve a variety of control methods. It is ideal for multiple hydraulic cylinders or multifunctional independent control. The valve can become a pipe-connected valve as long as it is fitted with a base plate, and other functional valves can be optionally fitted to the base plate. The valve has been tested over a long period of time and has a very high life expectancy.

- Real long life
- Perfect design without leakage
- Fast response time

Directional stop Valve (700bar)

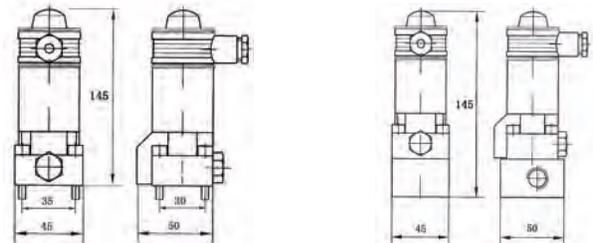
### Pneumatic Valve Dimensions



VP3-1/VPZ3-1

VP4-1/VPZ4-1

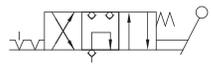
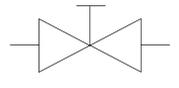
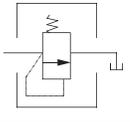
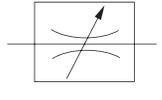
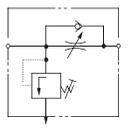
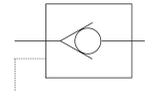
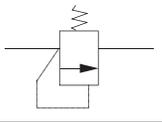
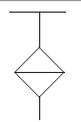
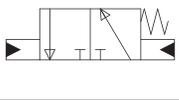
### Solenoid Valve Dimensions



VGS2-1/VGR2-1  
VG3-1/VGZ3-1

VG4-1/VGZ4-1

Mode	Solenoid Valve						Pneumatic Valve			
	VGS2-1	VGR2-1	VG3-1	VGZ3-1	VG4-1	VGZ4-1	VP3-1	VPZ3-1	VP4-1	VPZ4-1
Flow (L/min)	12						12			
Function										
Control	Electric						Pneumatic			
Screw	G 1/4						G 1/4			
Weight (kg)	1.4	1.4	1.4	1.4	1.9	1.9	1.4	1.4	1.9	1.9

Model		Description	Application	Hydraulic Symbol
	Directional control Valve VH1	The directional control vales prevents oil leakage. A handle-operated eccentric shaft controls the actuator that moves the position of the steel ball to control the process/lock/return operation of the double-acting oil circuit.	Double-acting hydraulic pump	
	Shut-off Valve IV4	Operated in the pump with model to use for shut-off or reaction	Single-acting hydraulic pump & Double-acting hydraulic pump	
	Pressure Limiting Valve MV4	Pressure limiting valves are used in hydraulic systems to control pressure and prevent the hydraulic system from exceeding the maximum allowable pressure or to adjust the operating pressure.	Electric hydraulic pump pressure limiting & Pressure regulating	
	Needle Valve V-82	To control cylinder speed, also used as shut-off valve for temporary load holding. 3/8NPT Female ports	Single-acting hydraulic pump & Double-acting hydraulic pump	
	Manually operated check Valve V-66	Used for load holding applications with single and double acting cylinders. Valve is manually opened to allow oil to flow back to tank when cylinder retracts.	Single-acting hydraulic pump & Double-acting hydraulic pump	
	Pilot operated check Valve V-42	To hold the load in case of system pressure loss	Double-acting hydraulic pump	
	Safe Valve BF4	For the limitation of working pressure	Single-acting hydraulic pump & Double-acting hydraulic pump	
	Piston	Basic hydraulic unit	Piston pump	
	Limited Valve TYC01A	Apply to adjust the work pressure of the hydraulic system.	Adjust pressure for hydraulic pump or hydraulic system	
	Adjust Valve TYC02A			
	Adjust Valve TYC02R			
	Directional Valve HXC02	Control direction of high-flow oil by low-flow oil	Single-acting hydraulic pump & Double-acting hydraulic pump	
	Directional control Valve DXC01	Ensure single-flow liquid, and hold the pressure. by the opposite direction	Single-flow, holding the pressure	
	Directional control Valve DXC02	Ensure single-flow liquid, and hold the pressure. by the opposite direction	Single-flow, holding the pressure	
	Relief Valve XHC02	Unload the hydraulic pump by controlling the oil pressure	Hydraulic pump	
	Relief Valve XHC03			

- ▲ Standard calibration with dual scale reading for psi and bar.
- ▲ All the pressure sensing components are sealed with glycerin and dampened proof to guarantee durability.
- ▲ Including a safety seal ring and pressure equalling membrane.

Model & photograph		Port	Face Diameter (mm) and pressure range(Mpa)	Gauge adaptor
GN0610		1/4" NPT External screw thread	MPa/Bar Double scale 0-70MPa(Digital display)	 GA-3
			MPa/Bar Double scale 0-100MPa	
GG1010		1/2" BSP External screw thread	MPa/Bar Double scale 0-100MPa	 GA20
GG1010-B			Bar Single scale 0-100MPa	
GG1020-G			MPa/Bar Double scale 0-200MPa	
GG1025-G			MPa/Bar Double scale 0-250MPa	
GG1030-G			MPa/Bar Double scale 0-300MPa	
GMH1025-P		M16×1.5 Internal thread	MPa/Bar Double scale 0-250MPa	 GA-23
GMH1040			MPa/Bar Double scale 0-400MPa	
GMH1040-G			MPa/Bar Double scale 0-400MPa	

## J series Connecting Accessory

- ▲ Hundreds of connection
- ▲ Kinds of screw thread, apply for any systems
- ▲ All bear superhigh pressure working condition

J01 Series		J02 Series		J03 Series	
					
J01-01	NPT1/4" (F)-NPT1/4"(F)	J02-06	NPT1/4" (M)-NPT1/4"(M)	J03-01	NPT1/4" (M)-G1/4"(F)
J01-02	NPT3/8" (F)-NPT1/4"(F)	J02-07	NPT1/4" (M)-NPT3/8"(M)	J03-06	NPT1/4" (F)-G1/4"(M)
J01-03	NPT3/8" (F)-NPT3/8"(F)	J02-10	NPT3/8" (M)-NPT3/8"(M)	J03-07	NPT1/4" (F)-NPT3/8"(M)
J01-04	NPT1/4" (F)-M10X1.5 (F)	J02-23	G1/4" (M)-G1/4"(M)	J03-11	NPT3/8" (F)-G3/8"(M)
J01-05	NPT3/8" (F)-M16X1.5(F)	J02-25	G1/4" (M)-NPT3/8"(M)	J03-14	NPT3/8" (F)-NPT1/4"(M)

Above as the standard model, other 300 kinds of models, please contact WREN Engineer.

- ▲ Four layers nylon design. Two layers of high strength steel wire braids and plastic coating.
- ▲ Twins hoses supplied for Hydraulic Torque Wrench.
- ▲ Used in strict occasion, 4:1 design factor.
- ▲ Light weight, small size and high bending radius.
- ▲ Exhibits low volumetric expansion under pressure.

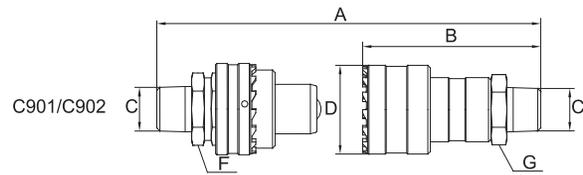
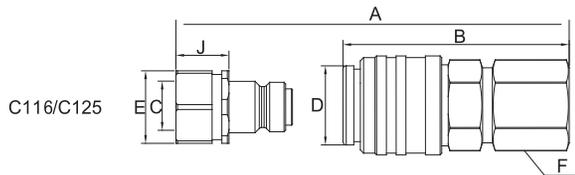
Model & photograph		max operating pressure ( bar )	hose end		Type	hose length ( M )
			end one	end two		
2JH64Series twin hydraulic hose		720	1/4"NPT	1/4"NPT	2JH6445-1	4.5
					2JH6460-1	6
					2JH6490-1	9
					2JH64100-1	10
JH74 Series hydraulic hose		720	1/4"NPT	1/4"NPT	JH7445	4.5
					JH7460	6
					JH7490	9
					JH74100	10
JH78 Series hydraulic hose		1000	3/8"NPT	3/8"NPT	JH7818	1.8
					JH7845	4.5
					JH7890	9
					JH78120	12
BH84 Series superhigh pressure hydraulic hose		1800	1/4"BSP	1/4"BSP	BH8420	2
					BH8460	6
					BH8490	9
					BH84120	12
BH94 Series superhigh pressure hydraulic hose		2500	1/4"BSP	1/4"BSP	BH9430	3
					BH9460	6
					BH9490	9

Above are the standard length, can be customized according to customer requirements of various length

## C series Quick Coupler

Model & photograph	Max Operating Pressure	Male half	Femal half	connecting	Dimensions							
					A	B	C	D	E	F	G	J
C901	700bar	C9014	C9013	Spiral lock	97	61	1/4"NPT	29		22	22	
					97	61	1/4"NPT	29		22	22	
C902	700bar	C9022	C9021	Spiral lock	108	71	3/8"NPT	35		24	24	
					108	71	3/8"NPT	35		24	24	
C116	1500bar	C1162	C1161	Card set	81		1/4"BSP		27.5			18.5
					81	61.5	1/4"BSP	28		24		
C125	2000bar	C1252	C1251	Card set	82		1/4"BSP		27.5			17.7
					82	64.5	1/4"BSP	30		24		

### C Series Quick Coupler Dimension



- ▲ 3/8"NPT high flow couplers,.
- ▲ It is standard component on most WREN cylinders.
- ▲ featuring 'push-to-connect' operation.
- ▲ 1/4" regular coupler.

# SI\* CONVERSION FORMULAS

## APPROXIMATE CONVERSION

MULTIPLY	BY	TO GET OR MULTIPLY	TO GET
SI* UNIT	CONY FACTOR	NON-SI UNIT	SI* UNIT
<b>LENGTH</b>			
millimeter (mm) (1 inch = 25.4 mm exactly)	X 0.03937	= inch	X 25.4 = mm
centimeter (cm) 10 mm	X 0.3937	= inch	X 2.54 = cm
meter (m) 1000 mm	X 3.28	= foot	X 0.305 = m
meter (m)	X 1.09	= yard	X 0.914 = m
kilometer (km) 1000 m	X 0.62	= mile	X 1.61 = km
<b>AREA</b>			
millimeter <sup>2</sup> (mm <sup>2</sup> )	X 0.00155	= inch <sup>2</sup>	X 645 = mm <sup>2</sup>
centimeter (cm <sup>2</sup> )	X 0.155	= inch <sup>2</sup>	X 6.45 = cm <sup>2</sup>
meter (m <sup>2</sup> )	X 10.8	= foot <sup>2</sup>	X 0.0929 = m <sup>2</sup>
meter (m <sup>2</sup> )	X 1.2	= yard <sup>2</sup>	X 0.836 = m <sup>2</sup>
hectare (ha) 10,000 m <sup>2</sup>	X 2.47	= acre	X 0.405 = ha
kilometer (km <sup>2</sup> )	X 0.39	= mile <sup>2</sup>	X 2.59 = km <sup>2</sup>
<b>VOLUME</b>			
centimeter <sup>3</sup> (cm <sup>3</sup> )	X 0.061	= inch <sup>3</sup>	X 16.4 = cm <sup>3</sup>
liter (l)	X 61	= inch <sup>3</sup>	X 0.016 = l
milliliter (ml) (1 ml= 1 cm <sup>3</sup> )	X 0.034	= oz-liq	X 29.6 = ml
liter (l) 1000 ml	X 1.06	= quart	X 0.946 = l
liter (l)	X 0.26	= gallon	X 3.79 = l
meter <sup>3</sup> (m <sup>3</sup> ) 1000 l	X 1.3	= yard <sup>3</sup>	X 0.76 = m <sup>3</sup>
<b>MASS</b>			
gram (g)	X 0.035	= ounce	X 28.3 = g
kilogram (kg) 1000 g	X 2.2	= pound	X 0.454 = kg
metric ton (t) 1000 kg	X 1.1	= ton (short)	X 0.907 = t

## APPROXIMATE CONVERSION

MULTIPLY	BY	TO GET OR MULTIPLY	TO GET
SI* UNIT	CONY FACTOR	NON-SI UNIT	SI* UNIT
<b>FORCE (N = kg · m/s<sup>2</sup>)</b>			
newton (N)	X 0.225	= pound	X 4.45 = N
kilonewton (kN)	X 225	= pound	X 0.00445 = kN
<b>TORQUE</b>			
newton meter (N·m)	X 8.9	= lb. in.	X 0.113 = N·m
newton meter (N·m)	X 0.74	= lb. ft.	X 1.36 = N·m
<b>PRESSURE (Pa = N/m<sup>2</sup>)</b>			
kilopascal (kPa)	X 4.0	= in. H <sub>2</sub> O	X 0.249 = kPa
kilopascal (kPa)	X 0.30	= in. Hg	X 3.38 = kPa
kilopascal (kPa)	X 0.145	= p.s.i.	X 6.89 = kPa
megapascal (MPa)	X 145	= p.s.i.	X 0.00689 = MPa
Bar	X 14.5	= p.s.i.	X 0.0689 = Bar
<b>POWER (W = J/s)</b>			
kilowatt (kw)	X 1.34	= hp	X 0.746 = kw
kilowatt (kw)	X 0.948	= Btu/s	X 1.055 = kw
watt (w)	X 0.74	= ft. lb/s	X 1.36 = w
<b>TEMPERATURE</b>			
°C = (°F - 32) ÷ 1.8	°F = (°C X 1.8) + 32		
<b>FLOW</b>			
cu. cm./min. cm./min.	X 0.061	= cu. in./min.	X 16.4 = cu. cm./min.
liters/min.	X 0.2642	= GPM	X 3.785 = liters/min.

\*System international (Modern Metric System)



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