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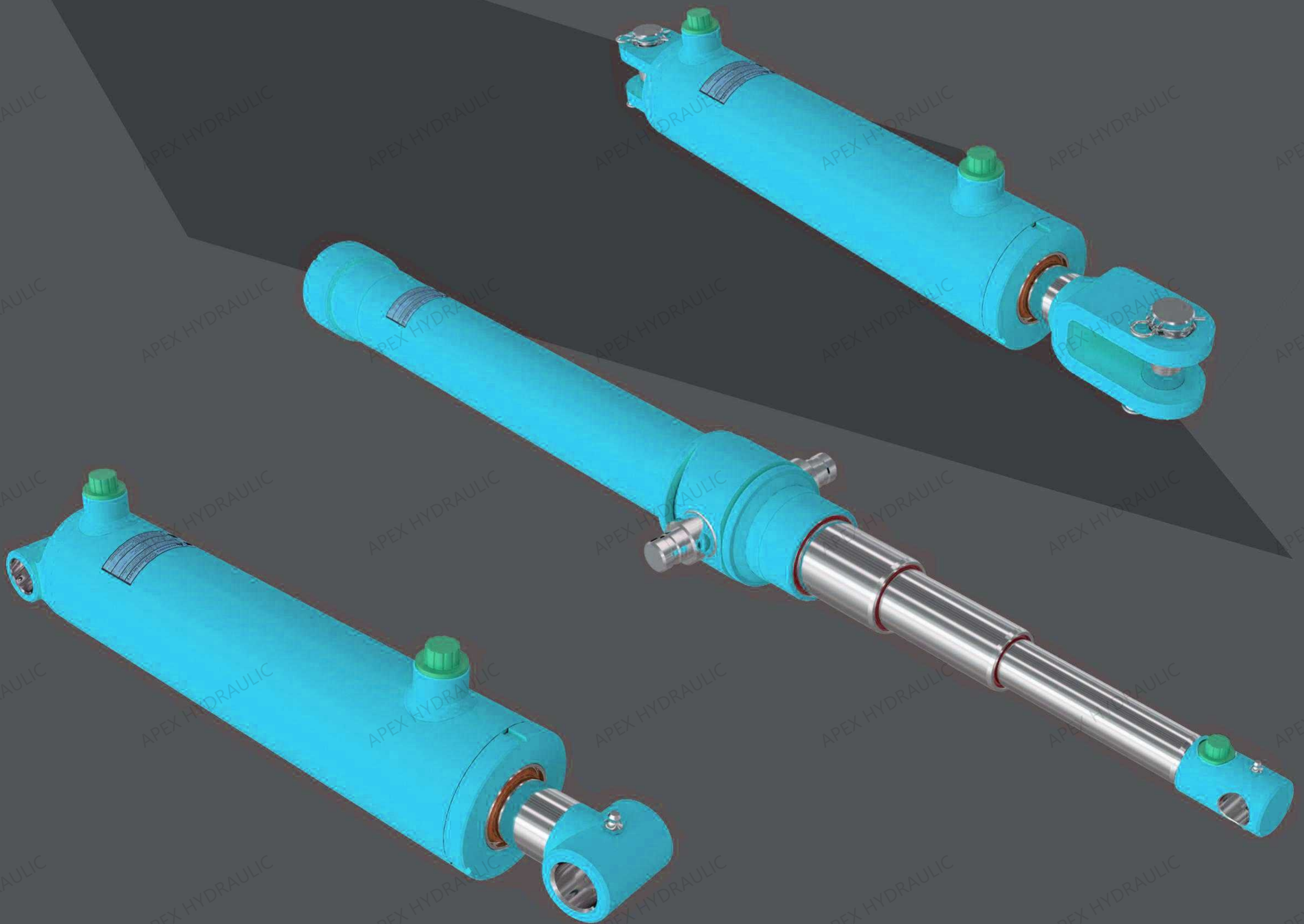
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APEX HYDRAULIC
Apex Hydraulic Co.,Ltd

HYDRAULIC CYLINDERS CATALOG



INNOVATIVE MOBILE SOLUTIONS
DESIGN ▼ MANUFACTURE ▼ INTEGRATE

INNOVATIVE MOBILE SOLUTIONS

Apex Hydraulic is a Chinese based manufacturer of custom and standard hydraulic solutions.

We manufacture hydraulic cylinders, hydraulic power units and pumps as well as engineer and integrate more than 100,000 units.

Serving the mobile equipment industry for decades, our products are designed and supported from our head office located in QingDao, ShanDong, China to exceed North American standards.

We are also a certified OEM production supplier to many large North American based corporations. Our services include custom components or system design, on-site visits, continuous support, flexible delivery and stocking programs, inventory updates, many warranty options, and responsive service.

We strive to provide you the best experience and deliver high-quality merchandise faster than expected.

At APEX HYDRAULIC, you can get the following one-stop services:

1. A more reasonable price than our peers.
2. We design product drawings for free, until you approve.
3. We provide advanced production equipment and professional quality inspectors, and every hydraulic cylinder will be tested before leaving the factory.
4. Perfect production management system, the high coordination of each production link greatly speeds up the production efficiency, you will have a shorter delivery time.
5. Professional after-sales service, we will be 24 hours online to answer any questions you have in the use of products.
6. Customized services, we according to your needs to design the structure, parameters, colors, packaging and so on.



OUR CAPABILITIES

1

OEM HYDRAULIC CYLINDERS

2

STANDARD HYDRAULIC CYLINDERS

3

HYDRAULIC POWER UNITS

- AC
- DC

4

HYDRAULIC COMPONENTS

- | | |
|-------------|------------------------|
| - Pumps | - Manifolds |
| - Motors | - Filters |
| - Valves | - Remotes |
| - Tanks | - Wireless controllers |
| - Toolboxes | - ... |

5

SYSTEM INTEGRATION

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ORDER INFORMATION

(IF DIFFERENT THAN OUR STANDARD)

HTH	20	04	1250	ASAE	ORB	R...	P	00
1	2	3	4	5	6	7	8	9
1.MODEL HCL: pages 3-8 HBU: pages 9-14 HTR: pages 15-19 HTH: pages 20-24 (...)				9.DESIGN SERIES Omit: Factory specified TTP: Tilt trailer package				
2.BORE 15: 1.5" 20: 2.0" 25: 2.5" 35: 3.5" (...)				8.PAINT Omit: Standard paint black *: Customer's color code CPG: Grey primer CPR: Red primer CWT: White color				
3.STROKE 04: 4" 06: 6" 08: 8" 10: 10" (...)				7.POSITION OF PORTS Omit: Standard position R: 90°				
4.ROD 1000: Ø 1.000" 1125: Ø 1.125" 1250: Ø 1.250" 1500: Ø 1.500" (...)				6.PORT TYPE Omit: Ports type NPT ORB: SAE O-ring				
				5.EXTENDED ROD Omit: Not available ASAE : Extended with 2"				

SPECIAL FEATURES

* All pictures may differ from the final products. Product specifications are subject to changes without notice.

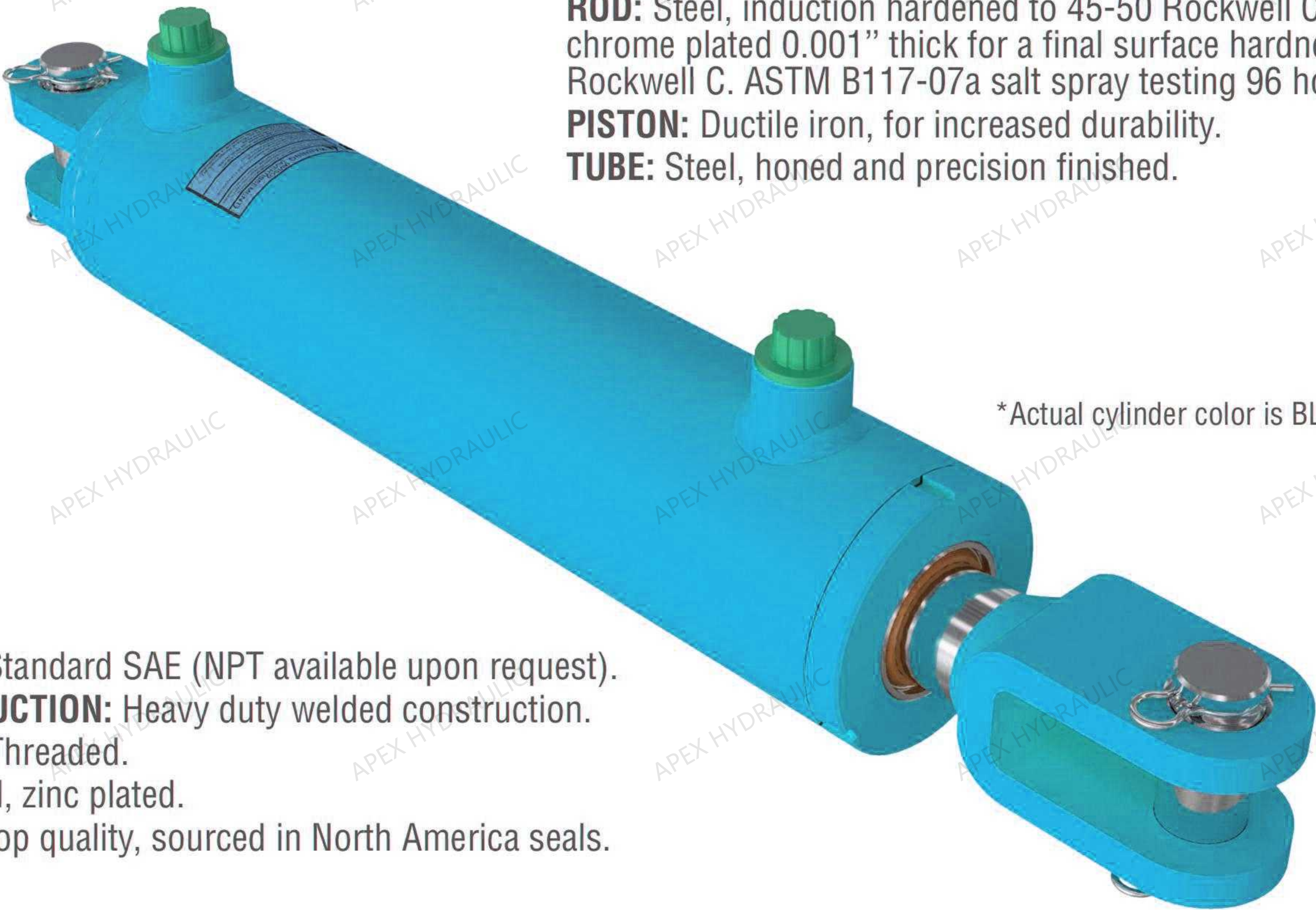
HCL 3000 PSI WP

DOUBLE ACTING CYLINDER

ROD: Steel, induction hardened to 45-50 Rockwell C and chrome plated 0.001” thick for a final surface hardness 69-71 Rockwell C. ASTM B117-07a salt spray testing 96 hours.

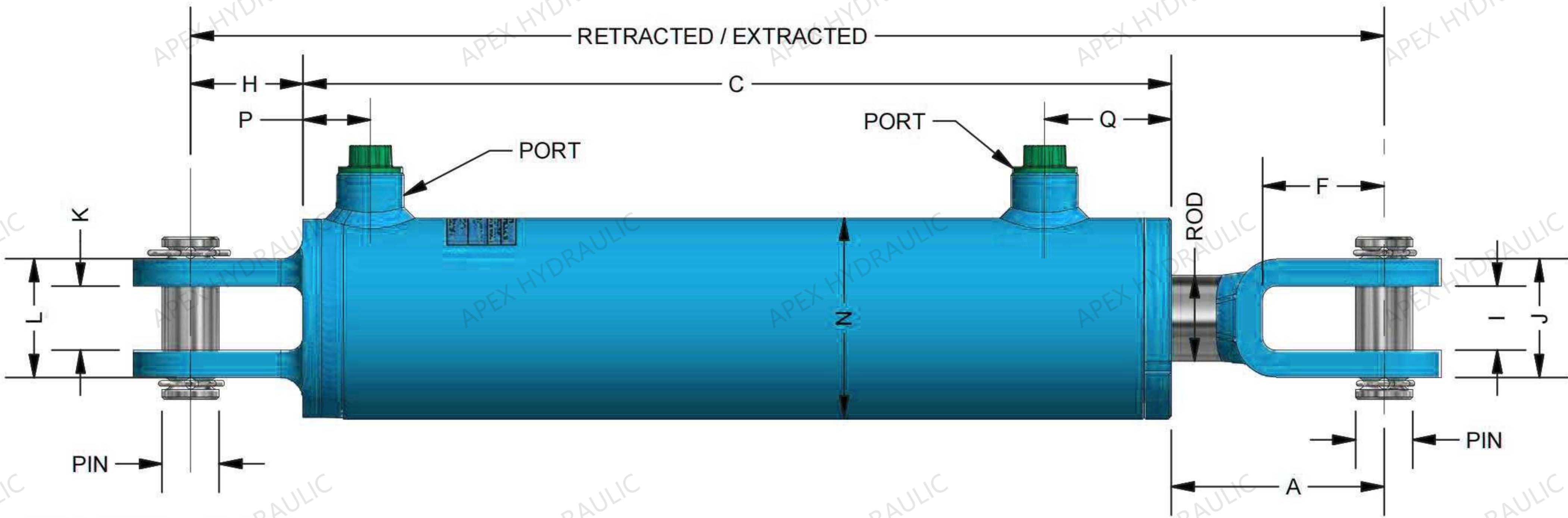
PISTON: Ductile iron, for increased durability.

TUBE: Steel, honed and precision finished.



*Actual cylinder color is BLACK

- PORTS:** Standard SAE (NPT available upon request).
- CONSTRUCTION:** Heavy duty welded construction.
- GLAND:** Threaded.
- PIN:** Steel, zinc plated.
- SEALS:** Top quality, sourced in North America seals.



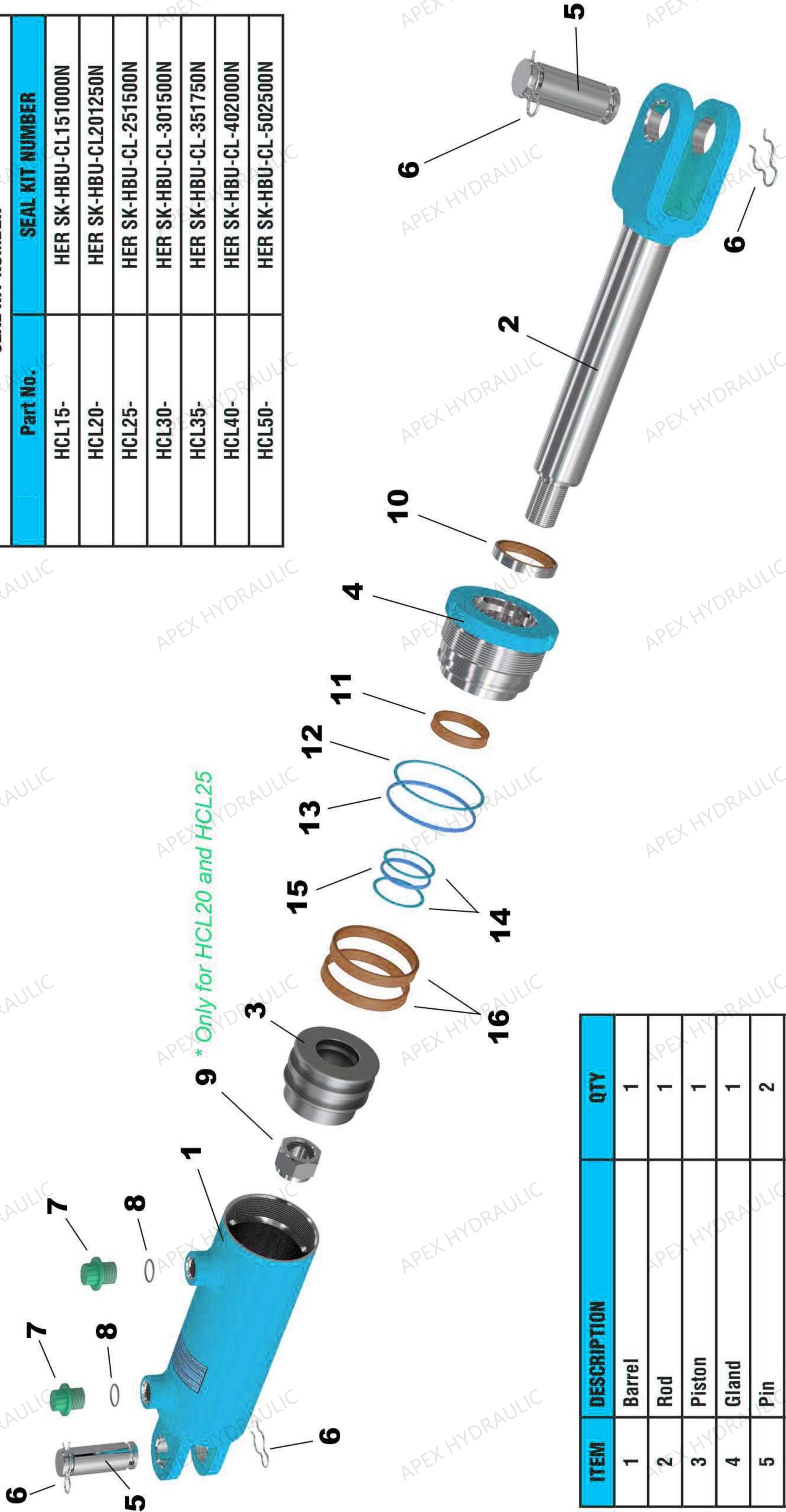
*All dimensions are in inches

Part No	BORE	A	F	H	I,K	J	L	N	P	Q
HCL15-	1.50	2.065	1.125	1.5	0.75	1.5	1.5	1.875	0.866	2.205
HCL20-	2.00	3.20 / 5.20 for HCL2008	2.125	2.600	1.125	2.125	2.125	2.375	0.875	2.000
HCL25-	2.50	3.0 / 5.0 for HCL2508	2.125	2.600	1.125	2.125	2.125	2.875	0.875	1.750
HCL30-	3.00	3.10 / 5.10 for HCL3008	2.125	1.972	1.125	2.125	2.125	3.500	1.000	2.200
HCL35-	3.50	3.25 / 5.25 for HCL3508	2.125	1.972[2.125]	1.125	2.385	2.385	4.000	0.875	2.000
HCL40-	4.00	3.0 / 5.0 for HCL4008	2.000	1.843[2.00]	1.125	2.385	2.385	4.500	0.875	2.250
HCL50-	5.00	3.8	2.000	1.913[2.00]	1.500	2.750	2.750	5.500	1.063	2.500

All numbers given are nominal values and should be used for reference only.

4 HCL - WELDED HYDRAULIC CYLINDERS

SEAL KIT NUMBER	
Part No.	SEAL KIT NUMBER
HCL15-	HER SK-HBU-CL151000N
HCL20-	HER SK-HBU-CL201250N
HCL25-	HER SK-HBU-CL-251500N
HCL30-	HER SK-HBU-CL-301500N
HCL35-	HER SK-HBU-CL-351750N
HCL40-	HER SK-HBU-CL-402000N
HCL50-	HER SK-HBU-CL-502500N



ITEM	DESCRIPTION	QTY
1	Barrel	1
2	Rod	1
3	Piston	1
4	Gland	1
5	Pin	2
6	Hair Pin	4
7	Plastic Plug	2
8	Plug O-Ring (SAE)	2
9	Stover Locknut	1
10	Wiper	1
11	Rod Seal	1
12	Gland Back-Up Ring	1
13	Gland O-Ring	1
14	Rod Back-Up Ring	2
15	Rod O-Ring	1
16	Piston Seal	2

HCL 3000 PSI WP



PART No.		STROKE	ROD DIAMETER	DIMENSIONS		C	PORT	PIN	WEIGHT (LBS)
				RETRACTED	EXTRACTED				
HCL 1.5" BORE 3000 PSI WP	HCL1504-ORB	4"	1"	12 1/4"	16 1/4"	8.685"	SAE#4 (1/4" NPT Available)	0.75"	7
	HCL1506-ORB	6"		14 1/4"	20 1/4"	10.685"			8
	HCL1508-ORB	8"		16 1/4"	24 1/4"	12.685"			9
	HCL1510-ORB	10"		18 1/4"	28 1/4"	14.685"			10
	HCL1512-ORB	12"		20 1/4"	32 1/4"	16.685"			11
	HCL1514-ORB	14"		22 1/4"	36 1/4"	18.685"			12
	HCL1516-ORB	16"		24 1/4"	40 1/4"	20.685"			13
	HCL1518-ORB	18"		26 1/4"	44 1/4"	22.685"			14
	HCL1520-ORB	20"		28 1/4"	48 1/4"	24.685"			15
	HCL1524-ORB	24"		32 1/4"	56 1/4"	28.685"			17
	HCL1536-ORB	36"		44 1/4"	80 1/4"	40.685"			24
HCL 2" BORE 3000 PSI WP	HCL2004-ORB	4"	1 1/4"	14 1/4"	18 1/4"	8.5"	SAE#6 (3/8" NPT Available)	1"	14
	HCL2006-ORB	6"		16 1/4"	22 1/4"	10.5"			15
	HCL2008-ORB	8"		20 1/4"	28 1/4"	12.5"			17
	HCL2010-ORB	10"		20 1/4"	30 1/4"	14.5"			17
	HCL2012-ORB	12"		22 1/4"	34 1/4"	16.5"			19
	HCL2014-ORB	14"		24 1/4"	38 1/4"	18.5"			21
	HCL2016-ORB	16"		26 1/4"	42 1/4"	20.5"			23
	HCL2018-ORB	18"		28 1/4"	46 1/4"	22.5"			24
	HCL2020-ORB	20"		30 1/4"	50 1/4"	24.5"			26
	HCL2024-ORB	24"		34 1/4"	58 1/4"	28.5"			28
	HCL2028-ORB	28"		38 1/4"	66 1/4"	32.5"			34
	HCL2030-ORB	30"		40 1/4"	70 1/4"	34.5"			35
	HCL2032-ORB	32"		42 1/4"	74 1/4"	36.5"			36
	HCL2034-ORB	34"		44 1/4"	78 1/4"	38.5"			39
	HCL2036-ORB	36"		46 1/4"	82 1/4"	40.5"			40
HCL 2.5" BORE 3000 PSI WP	HCL2504-ORB	4"	1 1/2"	14 1/4"	18 1/4"	8.56"	SAE#8 (1/2" NPT Available)	1"	17
	HCL2506-ORB	6"		16 1/4"	22 1/4"	10.56"			20
	HCL2508-ORB	8"		20 1/4"	28 1/4"	12.56"			22
	HCL2510-ORB	10"		20 1/4"	30 1/4"	14.56"			23
	HCL2512-ORB	12"		22 1/4"	34 1/4"	16.56"			25
	HCL2514-ORB	14"		24 1/4"	38 1/4"	18.56"			28
	HCL2516-ORB	16"		26 1/4"	42 1/4"	20.56"			30
	HCL2518-ORB	18"		28 1/4"	46 1/4"	22.56"			31
	HCL2520-ORB	20"		30 1/4"	50 1/4"	24.56"			34
	HCL2524-ORB	24"		34 1/4"	58 1/4"	28.56"			38
	HCL2528-ORB	28"		38 1/4"	66 1/4"	32.56"			42
	HCL2530-ORB	30"		40 1/4"	70 1/4"	34.56"			45
	HCL2532-ORB	32"		42 1/4"	74 1/4"	36.56"			46
	HCL2534-ORB	34"		44 1/4"	78 1/4"	38.56"			50
	HCL2536-ORB	36"		46 1/4"	82 1/4"	40.56"			51

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PART No.		STROKE	ROD DIAMETER	DIMENSIONS		C	PORT	PIN	WEIGHT (LBS)
				RETRACTED	EXTRACTED				
HCL 3" BORE 3000PSI WP	HCL3002-ORB	2"	1 1/2"	12 1/4"	16 1/4"	7.18"	SAE#8 (1/2" NPT Available)	1"	21
	HCL3004-ORB	4"		14 1/4"	18 1/4"	9.18"			23
	HCL3006-ORB	6"		16 1/4"	22 1/4"	11.18"			26
	HCL3008-ORB	8"		20 1/4"	28 1/4"	13.18"			28
	HCL3010-ORB	10"		20 1/4"	30 1/4"	15.18"			29
	HCL3012-ORB	12"		22 1/4"	34 1/4"	17.18"			30
	HCL3014-ORB	14"		24 1/4"	38 1/4"	19.18"			32
	HCL3016-ORB	16"		26 1/4"	42 1/4"	21.18"			36
	HCL3018-ORB	18"		28 1/4"	46 1/4"	23.18"			39
	HCL3020-ORB	20"		30 1/4"	50 1/4"	25.18"			42
	HCL3024-ORB	24"		34 1/4"	58 1/4"	29.18"			46
	HCL3028-ORB	28"		38 1/4"	66 1/4"	33.18"			51
	HCL3030-ORB	30"		40 1/4"	70 1/4"	35.18"			54
	HCL3032-ORB	32"		42 1/4"	74 1/4"	37.18"			56
	HCL3034-ORB	34"		44 1/4"	78 1/4"	39.18"			59
	HCL3036-ORB	36"		46 1/4"	82 1/4"	41.18"			61
HCL 3.5" BORE 3000 PSI WP	HCL3504-ORB	4"	1 3/4"	14 1/4"	18 1/4"	8.92"	SAE#8 (1/2" NPT Available)	1" 1 1/4" Available	26
	HCL3506-ORB	6"		16 1/4"	22 1/4"	10.92"			29
	HCL3508-ORB	8"		20 1/4"	28 1/4"	12.92"			33
	HCL3510-ORB	10"		20 1/4"	30 1/4"	14.92"			36
	HCL3512-ORB	12"		22 1/4"	34 1/4"	16.92"			39
	HCL3514-ORB	14"		24 1/4"	38 1/4"	18.92"			41
	HCL3516-ORB	16"		26 1/4"	42 1/4"	20.92"			45
	HCL3518-ORB	18"		28 1/4"	46 1/4"	22.92"			48
	HCL3520-ORB	20"		30 1/4"	50 1/4"	24.92"			52
	HCL3524-ORB	24"		34 1/4"	58 1/4"	28.92"			55
	HCL3528-ORB	28"		38 1/4"	66 1/4"	32.92"			62
	HCL3530-ORB	30"		40 1/4"	70 1/4"	34.92"			66
	HCL3532-ORB	32"		42 1/4"	74 1/4"	36.92"			70
	HCL3534-ORB	34"		44 1/4"	78 1/4"	38.92"			73
	HCL3536-ORB	36"		46 1/4"	82 1/4"	40.92"			77

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HCL

3000 PSI WP

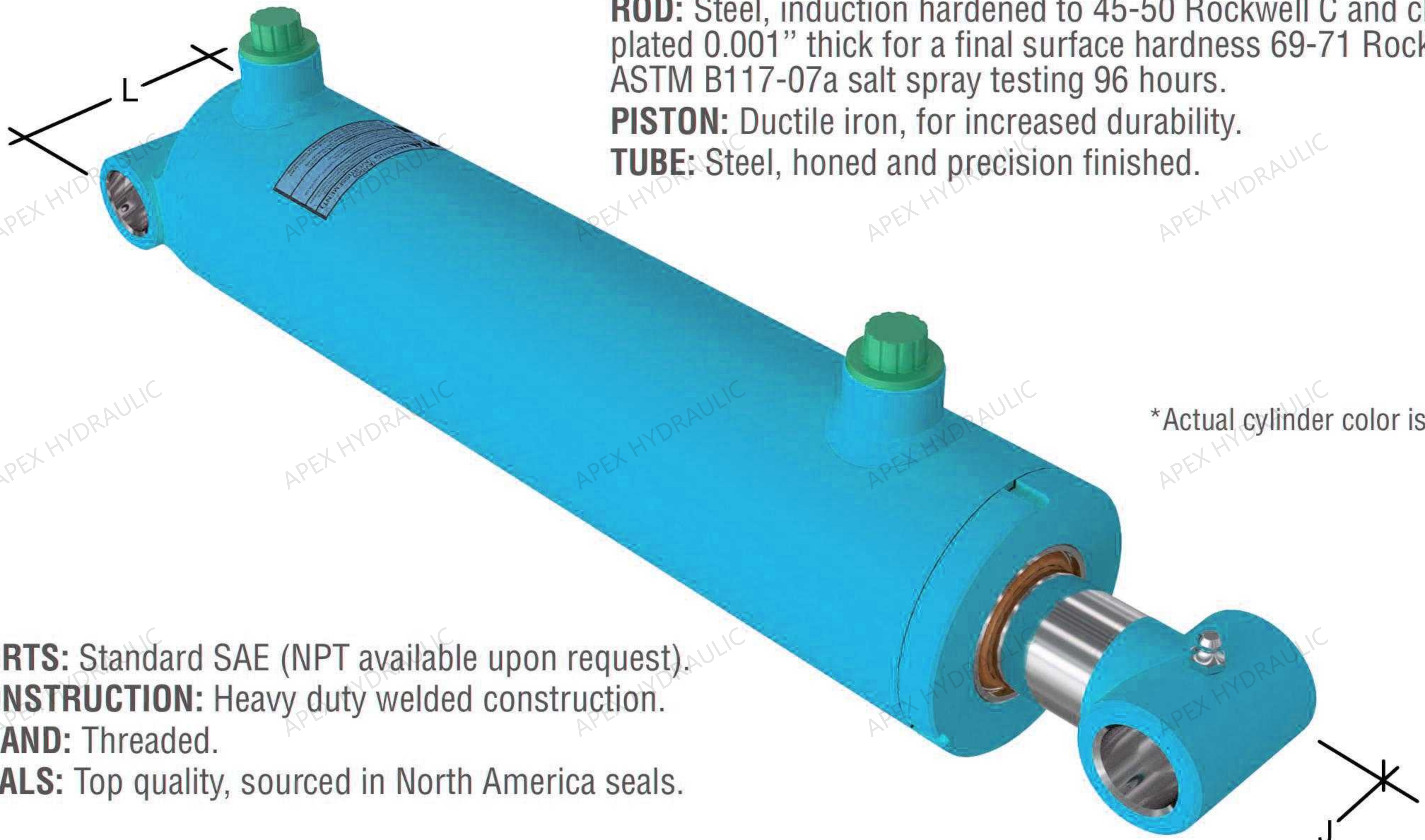


PART No.		STROKE	ROD DIAMETER	DIMENSIONS		C	PORT	PIN	WEIGHT (LBS)
				RETRACTED	EXTRACTED				
HCL 4" BORE 3000 PSI WP	HCL4004-ORB	4"	2"	14 1/4"	18 1/4"	9.27"	SAE#8 (1/2" NPT Available)	1 1/2" Available	31
	HCL4006-ORB	6"		16 1/4"	22 1/4"	11.27"			36
	HCL4008-ORB	8"		20 1/4"	28 1/4"	13.27"			41
	HCL4010-ORB	10"		20 1/4"	30 1/4"	15.27"			46
	HCL4012-ORB	12"		22 1/4"	34 1/4"	17.27"			47
	HCL4014-ORB	14"		24 1/4"	38 1/4"	19.27"			50
	HCL4016-ORB	16"		26 1/4"	42 1/4"	21.27"			53
	HCL4018-ORB	18"		28 1/4"	46 1/4"	23.27"			56
	HCL4020-ORB	20"		30 1/4"	50 1/4"	25.27"			61
	HCL4024-ORB	24"		34 1/4"	58 1/4"	29.27"			66
	HCL4028-ORB	28"		38 1/4"	66 1/4"	33.27"			77
	HCL4030-ORB	30"		40 1/4"	70 1/4"	35.27"			81
	HCL4032-ORB	32"		42 1/4"	74 1/4"	37.27"			87
	HCL4034-ORB	34"		44 1/4"	78 1/4"	39.27"			90
	HCL4036-ORB	36"		46 1/4"	82 1/4"	41.27"			94
HCL 5" BORE 3000 PSI WP	HCL5004-ORB	4"	2 1/2"	16 1/4"	20 1/4"	10.5"	SAE#8 SAE#12 Available (1/2" NPT Available)	1 1/2" Available	63
	HCL5006-ORB	6"		18 1/4"	24 1/4"	12.5"			67
	HCL5008-ORB	8"		20 1/4"	28 1/4"	14.5"			71
	HCL5010-ORB	10"		22 1/4"	32 1/4"	16.5"			76
	HCL5012-ORB	12"		24 1/4"	36 1/4"	18.5"			80
	HCL5014-ORB	14"		26 1/4"	40 1/4"	20.5"			84
	HCL5016-ORB	16"		28 1/4"	44 1/4"	22.5"			89
	HCL5018-ORB	18"		30 1/4"	48 1/4"	24.5"			93
	HCL5020-ORB	20"		32 1/4"	52 1/4"	26.5"			98
	HCL5024-ORB	24"		36 1/4"	60 1/4"	30.5"			106
	HCL5028-ORB	28"		40 1/4"	68 1/4"	34.5"			115
	HCL5030-ORB	30"		42 1/4"	72 1/4"	36.5"			120
	HCL5032-ORB	32"		44 1/4"	76 1/4"	38.5"			124
	HCL5034-ORB	34"		46 1/4"	80 1/4"	40.5"			129
	HCL5036-ORB	36"		48 1/4"	84 1/4"	42.5"			133

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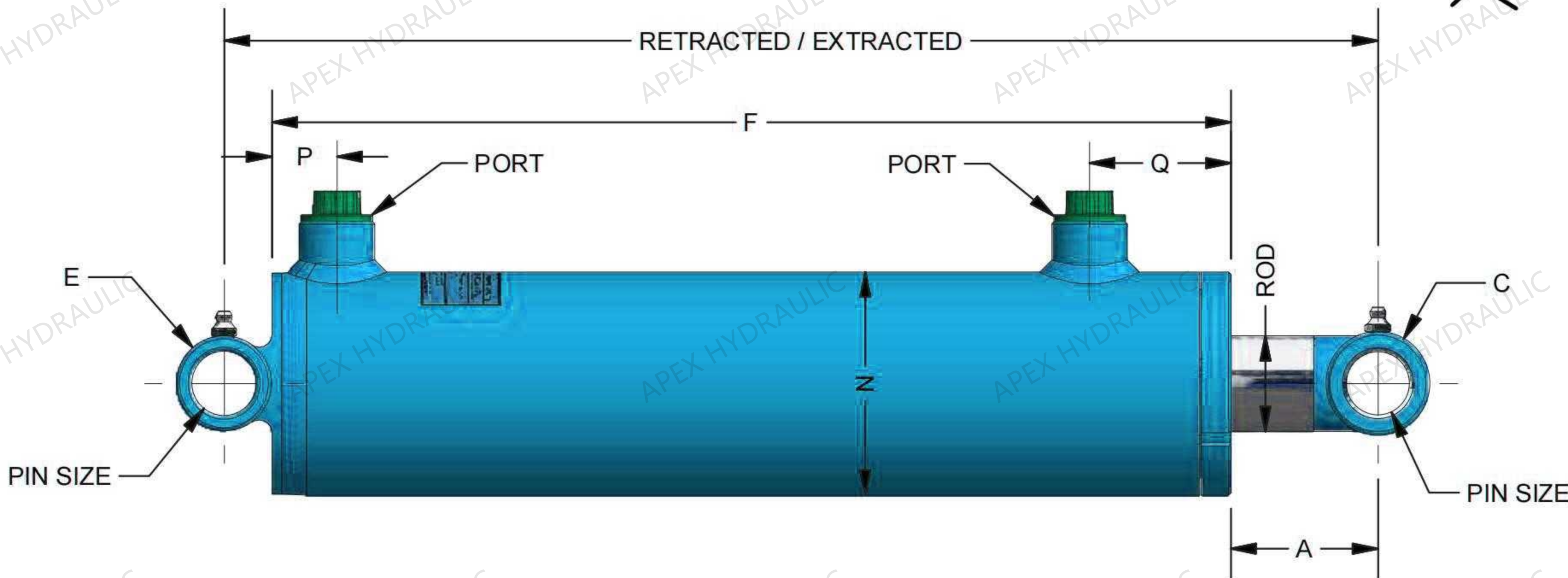
HCL - WELDED HYDRAULIC CYLINDERS



DOUBLE ACTING CYLINDER
ROD: Steel, induction hardened to 45-50 Rockwell C and chrome plated 0.001” thick for a final surface hardness 69-71 Rockwell C. ASTM B117-07a salt spray testing 96 hours.
PISTON: Ductile iron, for increased durability.
TUBE: Steel, honed and precision finished.

*Actual cylinder color is BLACK

PORTS: Standard SAE (NPT available upon request).
CONSTRUCTION: Heavy duty welded construction.
GLAND: Threaded.
SEALS: Top quality, sourced in North America seals.



*All dimensions are in inches

Part No	BORE	ROD	A	C, E	PIN SIZE	J	L	N	P	Q
HBU15-	1.50	1.00	2.70	1.250	0.750	2.00	2.25	1,875	0.875	2.200
HBU20-	2.00	1.25	2.80	1.500	1.00	2.25	2.75	2.375	0.875	2.000
HBU25-	2.50	1.50	2.65	1.500	1.000	2.25	3.25	2.875	0.875	2.000
HBU30-	3.00	1.50	2.20	1.500	1.000	2.25	3.75	3.50	1.000	2.200
HBU35-	3.50	1.75	4.10	2.000	1.250	2.25	4.25	4.00	0.875	2.000
HBU40-	4.00	2.00	3.60	2.250	1.500	2.50	4.75	4.500	1.000	2.250
HBU50-	5.00	2.50	4.50	2.500	1.750	3.25	5.75	5.500	1.000	2.500

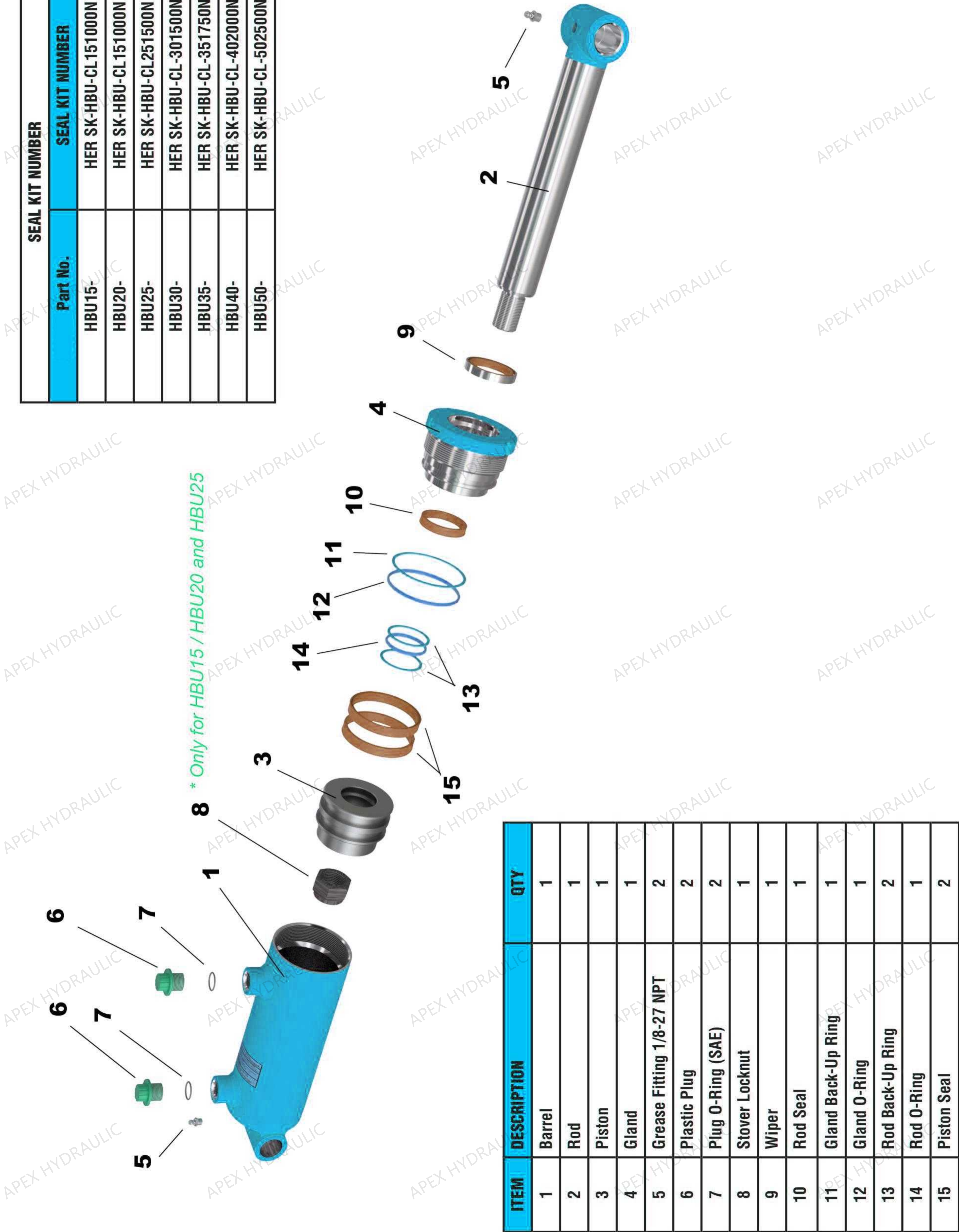
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HBU

3000 PSI WP

SEAL KIT NUMBER	
Part No.	SEAL KIT NUMBER
HBU15-	HER SK-HBU-CL-151000N
HBU20-	HER SK-HBU-CL-151000N
HBU25-	HER SK-HBU-CL-251500N
HBU30-	HER SK-HBU-CL-301500N
HBU35-	HER SK-HBU-CL-351750N
HBU40-	HER SK-HBU-CL-402000N
HBU50-	HER SK-HBU-CL-502500N



All numbers given are nominal values and should be used for reference only.



HBU - WELDED HYDRAULIC CYLINDERS

HBU 1.5" BORE 3000 PSI WP	PART No.	STROKE	ROD DIAMETER	DIMENSIONS		F	PORT	PIN	WEIGHT (LBS)
				RETRACTED	EXTRACTED				
	HBU1504-ORB	4"	1"	12"	16"	8.5"	SAE#4 (1/4" NPT Available)	3/4"	9
	HBU1506-ORB	6"		14"	20"	10.5"			10
	HBU1508-ORB	8"		16"	24"	12.5"			11
	HBU1510-ORB	10"		18"	28"	14.5"			13
	HBU1512-ORB	12"		20"	32"	16.5"			14
	HBU1514-ORB	14"		22"	36"	18.5"			15
	HBU1516-ORB	16"		24"	40"	20.5"			17
HBU 2" BORE 3000PSI WP	HBU2004-ORB	4"	1 1/4"	12"	16"	8.5"	SAE#6 (3/8" NPT Available)	1"	13
	HBU2006-ORB	6"		14"	20"	10.5"			14
	HBU2008-ORB	8"		16"	24"	12.5"			15
	HBU2010-ORB	10"		18"	28"	14.5"			15
	HBU2012-ORB	12"		20"	32"	16.5"			16
	HBU2014-ORB	14"		22"	36"	18.5"			17
	HBU2016-ORB	16"		24"	40"	20.5"			22
	HBU2018-ORB	18"		26"	44"	22.5"			22
	HBU2020-ORB	20"		28"	48"	24.5"			23
	HBU2024-ORB	24"		32"	56"	28.5"			28
	HBU2028-ORB	28"		36"	64"	32.5"			31
	HBU2030-ORB	30"		38"	68"	34.5"			34
	HBU2032-ORB	32"		40"	72"	36.5"			36
	HBU2036-ORB	36"		44"	80"	40.5"			39
	HBU2040-ORB	40"		48"	88"	44.5"			40
	HBU2048-ORB	48"		56"	104"	52.5"			50
HBU 2.5" BORE 3000PSI WP	HBU2504-ORB	4"	1 1/2"	12"	16"	8.56"	SAE#8 (1/2" NPT Available)	1"	17
	HBU2506-ORB	6"		14"	20"	10.56"			18
	HBU2508-ORB	8"		16"	24"	12.56"			19
	HBU2510-ORB	10"		18"	28"	14.56"			22
	HBU2512-ORB	12"		20"	32"	16.56"			24
	HBU2514-ORB	14"		22"	36"	18.56"			26
	HBU2516-ORB	16"		24"	40"	20.56"			30
	HBU2518-ORB	18"		26"	44"	22.56"			31
	HBU2520-ORB	20"		28"	48"	24.56"			32
	HBU2524-ORB	24"		32"	56"	28.56"			37
	HBU2528-ORB	28"		36"	64"	32.56"			42
	HBU2530-ORB	30"		38"	68"	34.56"			44
	HBU2532-ORB	32"		40"	72"	36.56"			46
	HBU2536-ORB	36"		44"	80"	40.56"			50
	HBU2540-ORB	40"		48"	88"	44.56"			55
	HBU2548-ORB	48"		56"	104"	52.56"			62

All numbers given are nominal values and should be used for reference only.

HBU

3000 PSI WP



	PART No.	STROKE	ROD DIAMETER	DIMENSIONS		F	PORT	PIN	WEIGHT (LBS)
				RETRACTED	EXTRACTED				
HBU 3" BORE 3000PSI WP	HBU3004-ORB	4"	1 1/2"	12"	16"	9.04"	SAE#8 (1/2" NPT Available)	1"	24
	HBU3006-ORB	6"		14"	20"	11.04"			25
	HBU3008-ORB	8"		16"	24"	13.04"			26
	HBU3010-ORB	10"		18"	28"	15.04"			28
	HBU3012-ORB	12"		20"	32"	17.04"			29
	HBU3014-ORB	14"		22"	36"	19.04"			31
	HBU3016-ORB	16"		24"	40"	21.04"			32
	HBU3018-ORB	18"		26"	44"	23.04"			36
	HBU3020-ORB	20"		28"	48"	25.04"			39
	HBU3024-ORB	24"		32"	56"	29.04"			42
	HBU3028-ORB	28"		36"	64"	33.04"			48
	HBU3030-ORB	30"		38"	68"	35.04"			52
	HBU3032-ORB	32"		40"	72"	37.04"			56
	HBU3036-ORB	36"		44"	80"	41.04"			60
	HBU3040-ORB	40"		48"	88"	45.04"			65
	HBU3048-ORB	48"		56"	104"	53.04"			71
HBU 3.5" BORE 3000PSI WP	HBU3504-ORB	4"	1 3/4"	14"	18"	8.92"	SAE#8 (1/2" NPT Available)	1 1/4"	28
	HBU3506-ORB	6"		16"	22"	10.92"			31
	HBU3508-ORB	8"		18"	26"	12.92"			33
	HBU3510-ORB	10"		20"	30"	14.92"			36
	HBU3512-ORB	12"		22"	34"	16.92"			39
	HBU3514-ORB	14"		24"	38"	18.92"			41
	HBU3516-ORB	16"		26"	42"	20.92"			45
	HBU3518-ORB	18"		28"	46"	22.92"			48
	HBU3520-ORB	20"		30"	50"	24.92"			51
	HBU3524-ORB	24"		34"	58"	28.92"			56
	HBU3528-ORB	28"		38"	66"	32.92"			60
	HBU3530-ORB	30"		40"	70"	34.92"			64
	HBU3532-ORB	32"		42"	74"	36.92"			68
	HBU3536-ORB	36"		46"	82"	40.92"			77
	HBU3540-ORB	40"		50"	90"	44.92"			81
	HBU3548-ORB	48"		58"	106"	52.92"			85

All numbers given are nominal values and should be used for reference only.

HBU - WELDED HYDRAULIC CYLINDERS

PART No.		STROKE	ROD DIAMETER	DIMENSIONS		F	PORT	PIN	WEIGHT (LBS)
				RETRACTED	EXTRACTED				
HBU 4" BORE 3000PSI WP		HBU4004-ORB	4"	2"	14"	18"	9.27"	SAE#8 (1/2" NPT Available)	35
		HBU4006-ORB	6"		16"	22"	11.27"		38
		HBU4008-ORB	8"		18"	26"	13.27"		41
		HBU4010-ORB	10"		20"	30"	15.27"		45
		HBU4012-ORB	12"		22"	34"	17.27"		48
		HBU4014-ORB	14"		24"	38"	19.27"		52
		HBU4016-ORB	16"		26"	42"	21.27"		55
		HBU4018-ORB	18"		28"	46"	23.27"		59
		HBU4020-ORB	20"		30"	50"	25.27"		63
		HBU4024-ORB	24"		34"	58"	29.27"		68
		HBU4028-ORB	28"		38"	66"	33.27"		77
		HBU4030-ORB	30"		40"	70"	35.27"		81
		HBU4032-ORB	32"		42"	74"	37.27"		84
		HBU4036-ORB	36"		46"	82"	41.27"		92
		HBU4040-ORB	40"		50"	90"	45.27"		99
		HBU4048-ORB	48"		58"	106"	53.27"		114
HBU 5" BORE 3000PSI WP		HBU5004-ORB	4"	2 1/2"	16"	20"	10.5"	SAE#8 SAE#12 Available (1/2" NPT Available)	63
		HBU5006-ORB	6"		18"	24"	12.5"		67
		HBU5008-ORB	8"		20"	28"	14.5"		71
		HBU5010-ORB	10"		22"	32"	16.5"		76
		HBU5012-ORB	12"		24"	36"	18.5"		80
		HBU5014-ORB	14"		26"	40"	20.5"		81
		HBU5016-ORB	16"		28"	44"	22.5"		89
		HBU5018-ORB	18"		30"	48"	24.5"		93
		HBU5020-ORB	20"		32"	52"	26.5"		98
		HBU5024-ORB	24"		36"	60"	30.5"		106
		HBU5028-ORB	28"		40"	68"	34.5"		115
		HBU5030-ORB	30"		42"	72"	36.5"		120
		HBU5032-ORB	32"		44"	76"	38.5"		124
		HBU5036-ORB	36"		48"	84"	42.5"		133
		HBU5040-ORB	40"		52"	92"	46.5"		142
		HBU5048-ORB	48"		60"	108"	54.5"		159

All numbers given are nominal values and should be used for reference only.

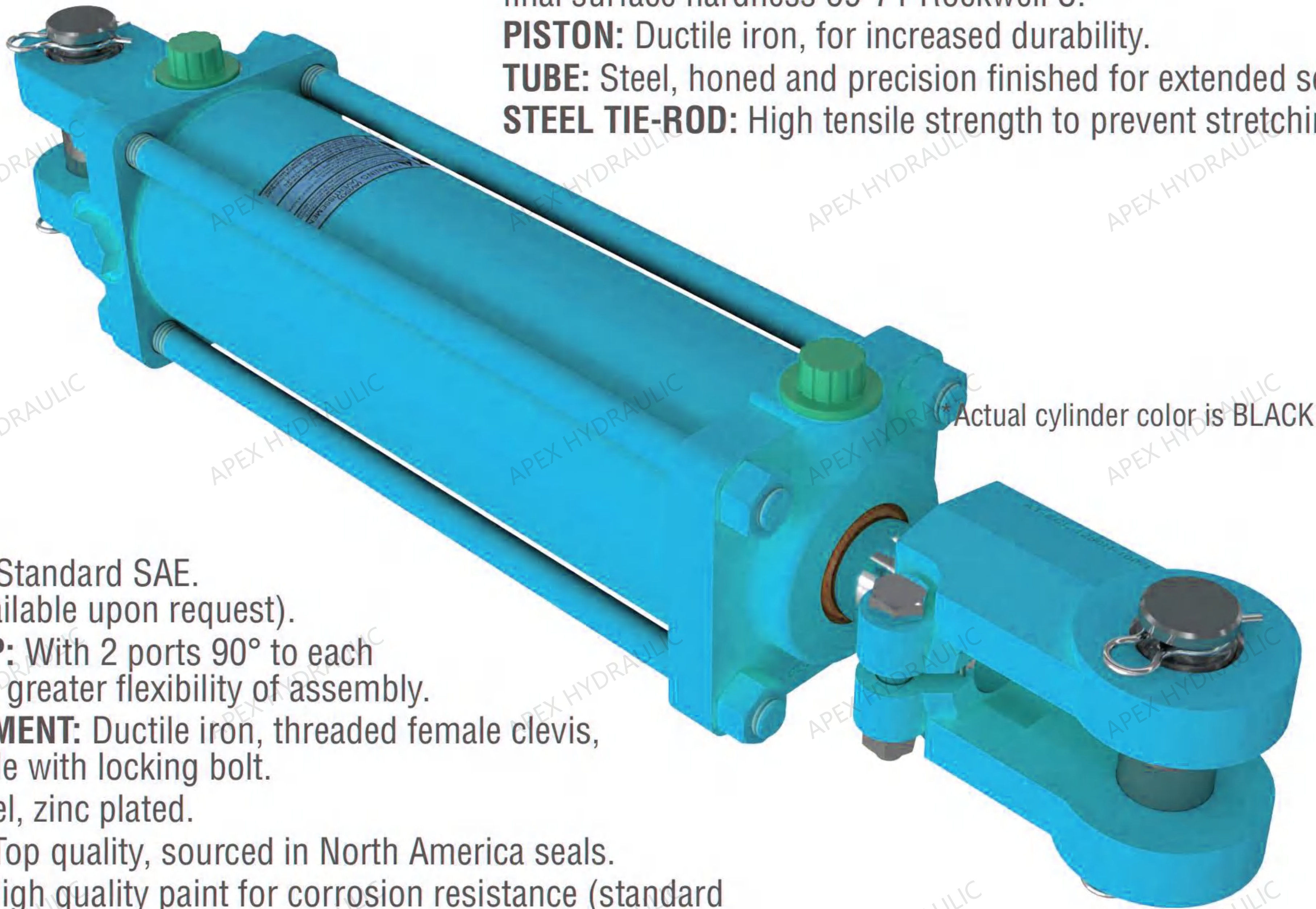
HBU

3000 PSI WP

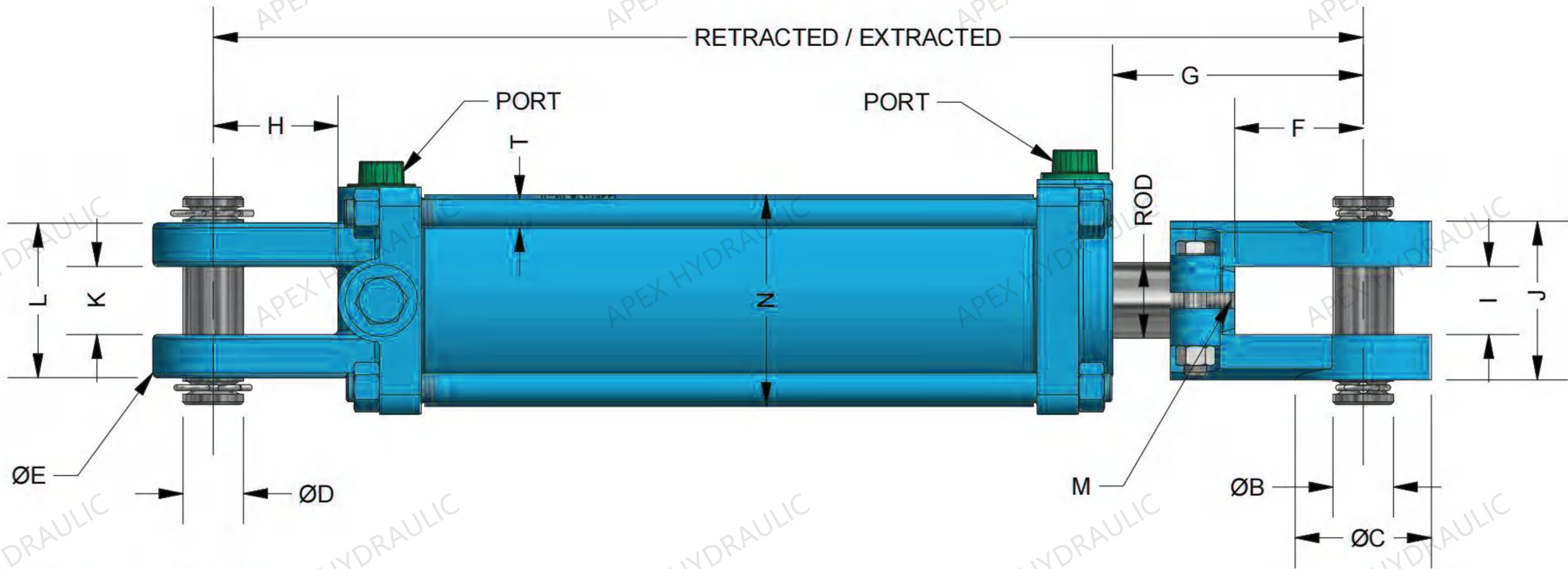
HBU 6" BORE 3000 PSI WP	PART No.	STROKE	ROD DIAMETER	DIMENSIONS		F	PORT	PIN	WEIGHT (LBS)
				RETRACTED	EXTRACTED				
	HBU6004-ORB	4"	2 1/2"	17"	21"	15.25"	SAE #12 (3/4" NPT Available)	1 3/4"	93
	HBU6006-ORB	6"		19"	25"	19.25"			100
	HBU6008-ORB	8"		21"	29"	23.25"			107
	HBU6010-ORB	10"		23"	33"	27.25"			114
	HBU6012-ORB	12"		25"	37"	31.25"			121
	HBU6014-ORB	14"		27"	41"	35.25"			128
	HBU6016-ORB	16"		29"	45"	39.25"			135
	HBU6018-ORB	18"		31"	49"	43.25"			142
	HBU6020-ORB	20"		33"	53"	47.25"			149
	HBU6024-ORB	24"		37"	61"	55.25"			163
	HBU6028-ORB	28"		41"	69"	63.25"			177
	HBU6030-ORB	30"		43"	73"	67.25"			184
	HBU6032-ORB	32"		45"	77"	71.25"			191
	HBU6036-ORB	36"		49"	85"	79.25"			205
	HBU6040-ORB	40"		53"	93"	87.25"			219
	HBU6048-ORB	48"		61"	109"	103.25"			247

HBU - WELDED HYDRAULIC CYLINDERS

DOUBLE ACTING CYLINDER
ROD: Steel, superior and hard, chrome plated 0.001" thick for a final surface hardness 69-71 Rockwell C.
PISTON: Ductile iron, for increased durability.
TUBE: Steel, honed and precision finished for extended seal life.
STEEL TIE-ROD: High tensile strength to prevent stretching.



PORTS: Standard SAE.
(NPT available upon request).
END CAP: With 2 ports 90° to each other for greater flexibility of assembly.
ATTACHMENT: Ductile iron, threaded female clevis, adjustable with locking bolt.
PIN: Steel, zinc plated.
SEALS: Top quality, sourced in North America seals.
PAINT: High quality paint for corrosion resistance (standard color: black).



*All dimensions are in inches

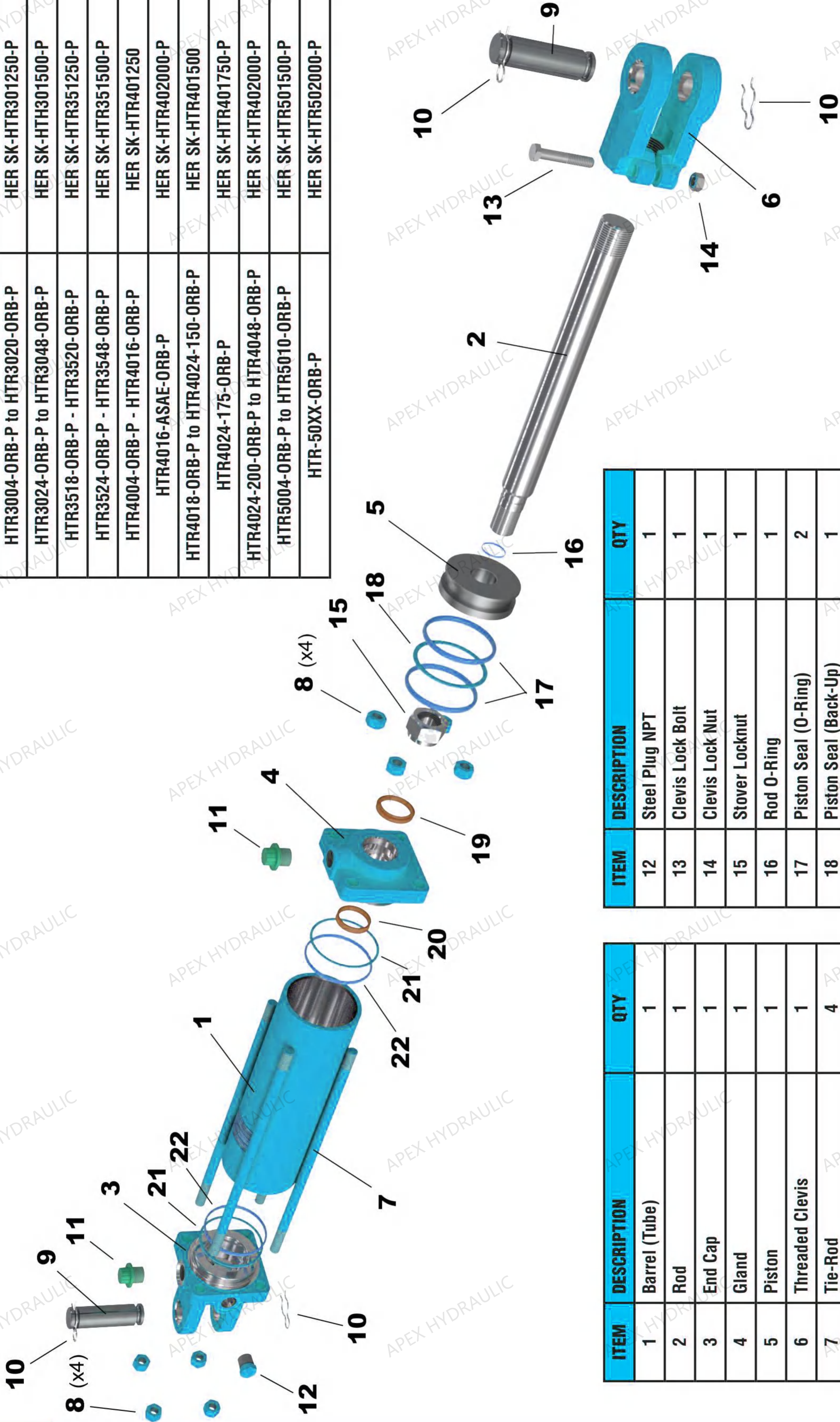
Part No	BORE	C	E	F	H	I,K	J	L	M	N	T
HTR20-	2.00	2.000	2.000	2.125	2.06	1.125	2.500	2.375	1-1/8-12-UNF	2.375	M10
HTR25-	2.50	2.000	2.000	2.125	2.06	1.125	2.500	2.500	1-1/8-12-UNF	2.875	M10
HTR30-	3.00	2.250	2.000	2.125	2.06	1.125	2.625	2.500	1-1/4-12-UNF	3.375	M12
HTR35-	3.50	2.250	2.250	2.125	2.06	1.125	2.625	2.500	1-1/4-12-UNF	3.875	M16
HTR40-	4.00	2.250	2.250	2.125	2.06	1.125	2.625	2.625	1-1/4-12-UNF	4.375	M16
HTR50-	5.00	2.500	3.000	2.125	2.250	1.250	2.875	3.500	1-1/2-12-UNF	5.500	M20

All numbers given are nominal values and should be used for reference only.

HTR

2500 PSI WP

SEAL KIT NUMBER	
Part No.	SEAL KIT NUMBER
HTR20XX-ORB-P	HER SK-HTR201125
HTR2504-ORB-P to HTR2524-ORB-P	HER SK-HTH251125-P
HTR2530-ORB-P to HTR2548-ORB-P	HER SK-HTH2511250-P
HTR3004-ORB-P to HTR3020-ORB-P	HER SK-HTR301250-P
HTR3024-ORB-P to HTR3048-ORB-P	HER SK-HTH301500-P
HTR3518-ORB-P - HTR3520-ORB-P	HER SK-HTR351250-P
HTR3524-ORB-P - HTR3548-ORB-P	HER SK-HTR351500-P
HTR4004-ORB-P - HTR4016-ORB-P	HER SK-HTR401250
HTR4016-ASAE-ORB-P	HER SK-HTR402000-P
HTR4018-ORB-P to HTR4024-150-ORB-P	HER SK-HTR401500
HTR4024-175-ORB-P	HER SK-HTR401750-P
HTR4024-200-ORB-P to HTR4048-ORB-P	HER SK-HTR402000-P
HTR5004-ORB-P to HTR5010-ORB-P	HER SK-HTR501500-P
HTR-50XX-ORB-P	HER SK-HTR502000-P



ITEM	DESCRIPTION	QTY
12	Steel Plug NPT	1
13	Clevis Lock Bolt	1
14	Clevis Lock Nut	1
15	Stover Locknut	1
16	Rod O-Ring	1
17	Piston Seal (O-Ring)	2
18	Piston Seal (Back-Up)	1
19	Wiper	1
20	Rod Seal	1
21	Gland O-Ring	2
22	Gland Back-Up Ring	2

ITEM	DESCRIPTION	QTY
1	Barrel (Tube)	1
2	Rod	1
3	End Cap	1
4	Gland	1
5	Piston	1
6	Threaded Clevis	1
7	Tie-Rod	4
8	Tie-Rod Nut	8
9	Pin	2
10	Hair Pin	4
11	Plastic Plug NPT	2

All numbers given are nominal values and should be used for reference only.

HTR - TIE-ROD HYDRAULIC CYLINDERS

HTR - TIE-ROD HYDRAULIC CYLINDERS

PART No.		STROKE	ROD DIAMETER	DIMENSIONS		G	PORT	PIN	WEIGHT
				RETRACTED	EXTRACTED			D, B	(LBS)
HTR 2" BORE 2500 PSI WP	HTR2004-ORB-P	4"	1 1/8"	14 1/4"	18 1/4"	3.375"	SAE#6 (3/8" NPT Available)	1"	14
	HTR2006-ORB-P	6"		16 1/4"	22 1/4"				16
	HTR2008-ORB-P	8"		18 1/4"	26 1/4"				17
	HTR2008-ASAE-ORB-P	8"		20 1/4"	28 1/4"	5.375"			18
	HTR2010-ORB-P	10"		20 1/4"	30 1/4"	3.375"			19
	HTR2012-ORB-P	12"		22 1/4"	34 1/4"				20
	HTR2014-ORB-P	14"		24 1/4"	38 1/4"				22
	HTR2016-ORB-P	16"		26 1/4"	42 1/4"				24
	HTR2018-ORB-P	18"		28 1/4"	46 1/4"				26
	HTR2020-ORB-P	20"		30 1/4"	50 1/4"				27
	HTR2024-ORB-P	24"		34 1/4"	58 1/4"				30
	HTR2030-ORB-P	30"		40 1/4"	70 1/4"				35
	HTR2036-ORB-P	36"		46 1/4"	82 1/4"				40
	HTR2040-ORB-P	40"		50 1/4"	90 1/4"				
	HTR2048-ORB-P	48"		58 1/4"	106 1/4"				

HTR 2.5" BORE 2500 PSI WP	HTR2504-ORB-P	4"	1 1/8"	14 1/4"	18 1/4"	3.375"	SAE#6 (3/8" NPT Available)	1"	16
	HTR2506-ORB-P	6"		16 1/4"	22 1/4"				18
	HTR2508-ORB-P	8"		18 1/4"	26 1/4"				19
	HTR2508-ASAE-ORB-P	8"		20 1/4"	28 1/4"	5.375"			20
	HTR2510-ORB-P	10"		20 1/4"	30 1/4"	3.375"			21
	HTR2512-ORB-P	12"		22 1/4"	34 1/4"				23
	HTR2514-ORB-P	14"		24 1/4"	38 1/4"				25
	HTR2516-ORB-P	16"		26 1/4"	42 1/4"				27
	HTR2518-ORB-P	18"		28 1/4"	46 1/4"				28
	HTR2520-ORB-P	20"		30 1/4"	50 1/4"				30
	HTR2524-ORB-P	24"		34 1/4"	58 1/4"				34
	HTR2530-ORB-P	30"	1 1/4"	40 1/4"	70 1/4"				45
	HTR2536-ORB-P	36"		46 1/4"	82 1/4"				56
	HTR2540-ORB-P	40"		50 1/4"	90 1/4"				
	HTR2548-ORB-P	48"		58 1/4"	106 1/4"				

All numbers given are nominal values and should be used for reference only.

HTR

2500 PSI WP



HTR 3" BORE 2500 PSI WP	PART No.	STROKE	ROD DIAMETER	DIMENSIONS		G	PORT	PIN	WEIGHT
				RETRACTED	EXTRACTED			D, B	(LBS)
	HTR3004-ORB-P	4"	1 1/4"	14 1/4"	18 1/4"	3.375"	SAE#8 (1/2" NPT Available)	1"	22
	HTR3006-ORB-P	6"		16 1/4"	22 1/4"				24
	HTR3008-ORB-P	8"		18 1/4"	26 1/4"				26
	HTR3008-ASAE-ORB-P	8"		20 1/4"	28 1/4"	5.375"			27
	HTR3010-ORB-P	10"		20 1/4"	30 1/4"				3.375"
	HTR3012-ORB-P	12"		22 1/4"	34 1/4"	30			
	HTR3014-ORB-P	14"		24 1/4"	38 1/4"	33			
	HTR3016-ORB-P	16"		26 1/4"	42 1/4"	8.625"			35
	HTR3016-ASAE-ORB-P	16"		31 1/2"	47 1/2"			1 1/4"	38
	HTR3018-ORB-P	18"	28 1/4"	46 1/4"	3.375"			1"	37
	HTR3020-ORB-P	20"	30 1/4"	50 1/4"		39			
	HTR3024-ORB-P	24"	34 1/4"	58 1/4"		43			
	HTR3030-ORB-P	30"	40 1/4"	70 1/4"		59			
	HTR3036-ORB-P	36"	46 1/4"	82 1/4"		68			
	HTR3040-ORB-P	40"	1 1/2"	50 1/4"	90 1/4"				
	HTR3048-ORB-P	48"		58 1/4"	106 1/4"				

HTR 3.5" BORE 2500 PSI WP	HTR3504-ORB-P	4"	1 1/4"	14 1/4"	18 1/4"	3.50"	SAE#8 (1/2" NPT Available)	1"	22
	HTR3506-ORB-P	6"		16 1/4"	22 1/4"				26
	HTR3508-ORB-P	8"		18 1/4"	26 1/4"	28			
	HTR3508-ASAE-ORB-P	8"		20 1/4"	28 1/4"	29			
	HTR3510-ORB-P	10"		20 1/4"	30 1/4"	30			
	HTR3512-ORB-P	12"		22 1/4"	34 1/4"	33			
	HTR3514-ORB-P	14"		24 1/4"	38 1/4"	35			
	HTR3516-ORB-P	16"		26 1/4"	42 1/4"	37			
	HTR3516-ASAE-ORB-P	16"	1 1/2"	31 1/2"	47 1/2"	8.80"		1 1/4"	39
	HTR3518-ORB-P	18"	1 1/4"	28 1/4"	46 1/4"	3.50"		1"	40
	HTR3520-ORB-P	20"		30 1/4"	50 1/4"				42
	HTR3524-ORB-P	24"	1 1/2"	34 1/4"	58 1/4"				51
	HTR3530-ORB-P	30"		40 1/4"	70 1/4"				59
	HTR3536-ORB-P	36"		46 1/4"	82 1/4"				68
	HTR3540-ORB-P	40"		50 1/4"	90 1/4"				
	HTR3548-ORB-P	48"		58 1/4"	106 1/4"				

All numbers given are nominal values and should be used for reference only.



HTR - TIE-ROD HYDRAULIC CYLINDERS

HTR 4" BORE 2500 PSI WP	PART No.	STROKE	ROD DIAMETER	DIMENSIONS		G	PORT	PIN D, B	WEIGHT (LBS)
				RETRACTED	EXTRACTED				
	HTR4004-ORB-P	4"	1 1/4"	14 1/4"	18 1/4"	3.375"	SAE#8 (1/2" NPT Available)	1"	30
	HTR4006-ORB-P	6"		16 1/4"	22 1/4"				33
	HTR4008-ORB-P	8"		18 1/4"	26 1/4"				35
	HTR4008-ASAE-ORB-P	8"		20 1/4"	28 1/4"	5.375"			36
	HTR4010-ORB-P	10"		20 1/4"	30 1/4"				37
	HTR4012-ORB-P	12"		22 1/4"	34 1/4"	3.375"			40
	HTR4014-ORB-P	14"		24 1/4"	38 1/4"				42
	HTR4016-ORB-P	16"		26 1/4"	42 1/4"				48
	HTR4016-ASAE-ORB-P	16"	2"	31 1/2"	47 1/2"	8.625"		1 1/4"	64
	HTR4018-ORB-P	18"	1 1/2"	28 1/4"	46 1/4"			1"	51
	HTR4020-ORB-P	20"		30 1/4"	50 1/4"				53
	HTR4024-150-ORB-P	24"		34 1/4"	58 1/4"				59
	HTR4024-175-ORB-P	24"	1 3/4"	34 1/4"	58 1/4"				64
	HTR4024-200-ORB-P	24"	2"	34 1/4"	58 1/4"	3.375"			70
	HTR4030-ORB-P	30"		40 1/4"	70 1/4"				87
	HTR4036-ORB-P	36"		46 1/4"	82 1/4"				98
	HTR4040-ORB-P	40"		50 1/4"	90 1/4"				
	HTR4048-ORB-P	48"		58 1/4"	106 1/4"				

HTR 5" BORE 1500 PSI WP	HTR5004-ORB-P	4"	1 1/2"	16 1/4"	20 1/4"	3.75"	SAE#8 (1/2" NPT Available)	1"	53
	HTR5006-ORB-P	6"		18 1/4"	24 1/4"				55
	HTR5008-ORB-P	8"		20 1/4"	28 1/4"				64
	HTR5008-ASAE-ORB-P	8"		22 1/4"	30 1/4"	5.75"			66
	HTR5010-ORB-P	10"		22 1/4"	32 1/4"				68
	HTR5012-ORB-P	12"	2"	24 1/4"	36 1/4"	3.75"		1 1/4"	77
	HTR5014-ORB-P	14"		26 1/4"	40 1/4"				82
	HTR5016-ORB-P	16"		28 1/4"	44 1/4"				87
	HTR5016-ASAE-ORB-P	16"		31 1/2"	47 1/2"	7.00"			90
	HTR5018-ORB-P	18"		30 1/4"	48 1/4"				92
	HTR5020-ORB-P	20"		32 1/4"	52 1/4"				93
	HTR5024-ORB-P	24"		36 1/4"	60 1/4"				106
	HTR5030-ORB-P	30"		42 1/4"	72 1/4"	3.75"			121
	HTR5036-ORB-P	36"		48 1/4"	84 1/4"				136
	HTR5040-ORB-P	40"		52 1/4"	90 1/4"				145
	HTR5048-ORB-P	48"		60 1/4"	106 1/4"				150

All numbers given are nominal values and should be used for reference only.

HTH 3000 PSI WP

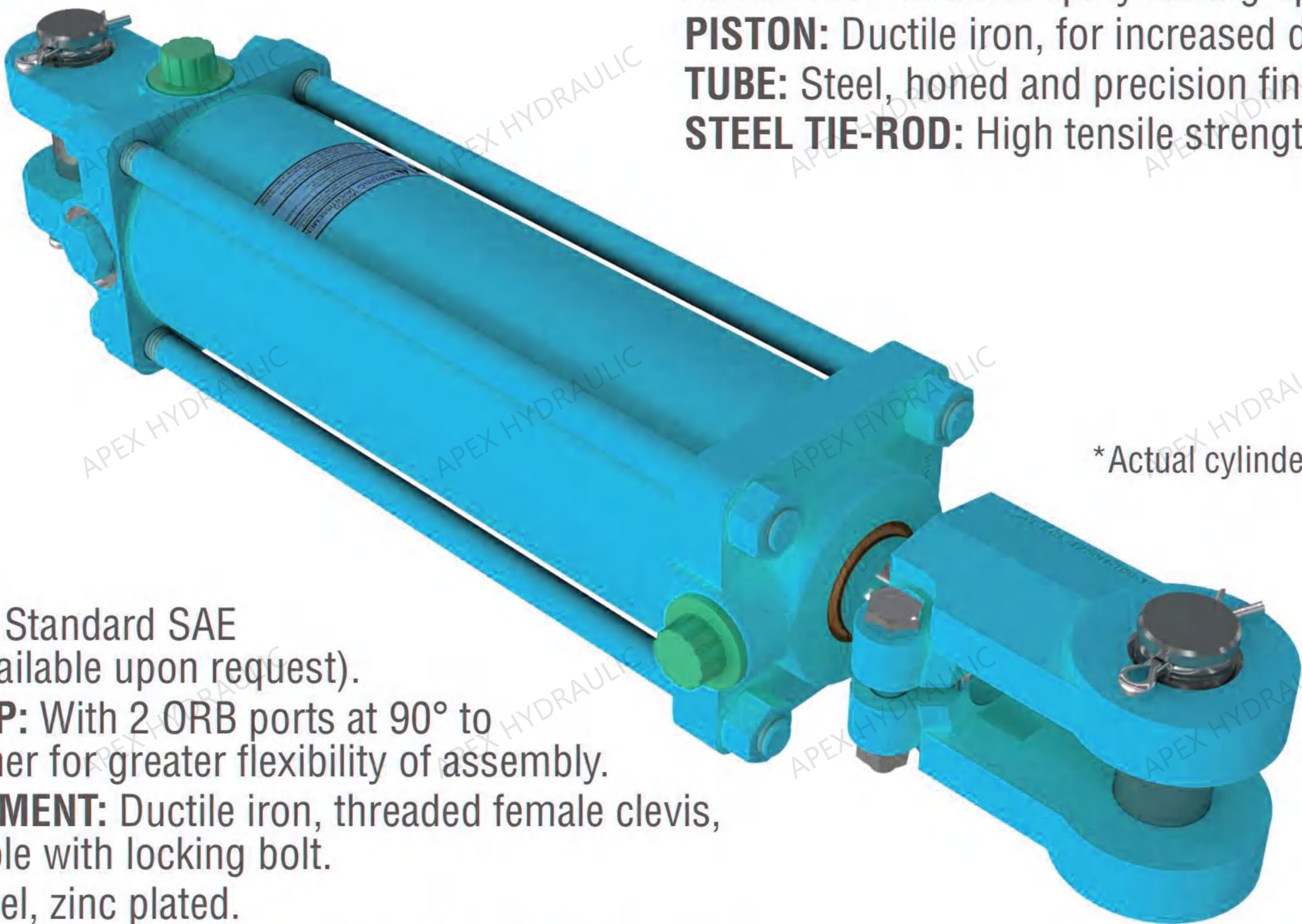
DOUBLE ACTING CYLINDER

ROD: Steel, induction hardened to 45-50 Rockwell C and chrome plated 0.001" thick for a final surface hardness 69-71 Rockwell C. ASTM B117-07a salt spray testing up to 96 hours.

PISTON: Ductile iron, for increased durability.

TUBE: Steel, honed and precision finished for extended seal life.

STEEL TIE-ROD: High tensile strength to prevent stretching.



*Actual cylinder color is BLACK

PORTS: Standard SAE (NPT available upon request).

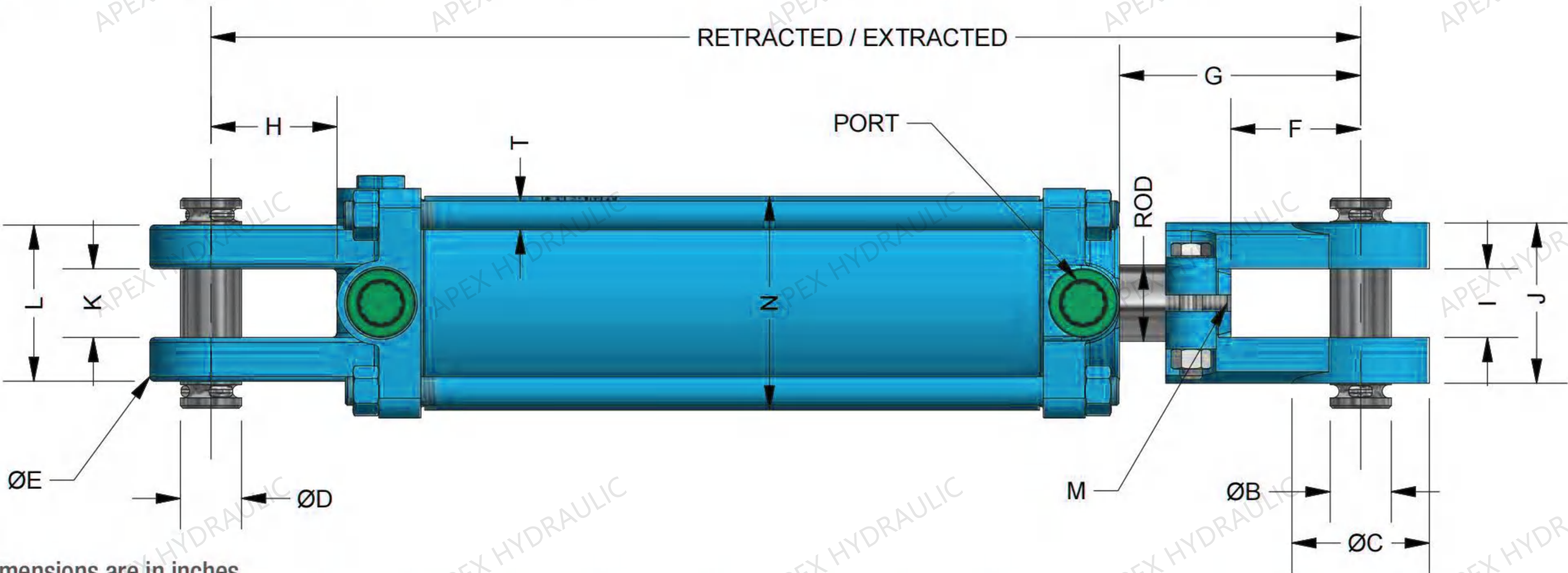
END CAP: With 2 ORB ports at 90° to each other for greater flexibility of assembly.

ATTACHMENT: Ductile iron, threaded female clevis, adjustable with locking bolt.

PIN: Steel, zinc plated.

SEALS: Top quality, sourced in North America seals.

PAINT: High quality paint for corrosion resistance up to 360 hours (standard color: black).



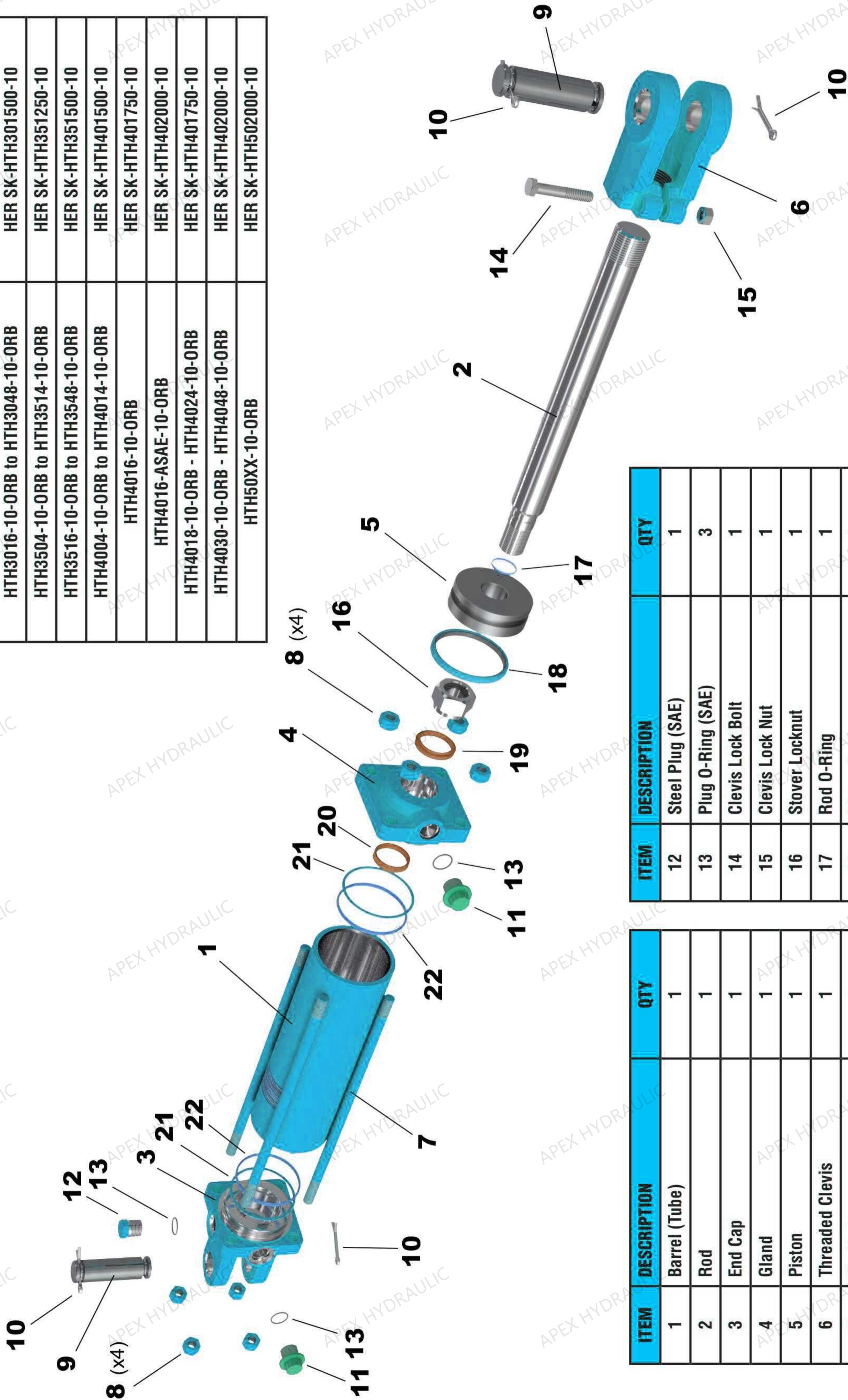
*All dimensions are in inches

Part No	BORE	C	E	F	H	I,K	J	L	M	N	T
HTH20-	2.00	2.000	2.000	2.125	2.06	1.125	2.500	2.375	1 1/8-12-UNF	2.375	M10
HTH25-	2.50	2.000	2.000	2.125	2.06	1.125	2.500	2.500	1 1/8-12-UNF	2.875	M10
HTH30-	3.00	2.250	2.000	2.125	2.06	1.125	2.625	2.560	1 1/4-12-UNF	3.375	M12
HTH35-	3.50	2.250	2.250	2.125	2.06	1.125	2.625	2.590	1 1/4-12-UNF	3.875	M16
HTH40-	4.00	2.250	2.250	2.125	2.06	1.125	2.625	2.625	1 1/4-12-UNF	4.375	M16
HTH50-	5.00	2.500	3.000	2.125	2.25	1.125	2.2.875	3.5	1 1/2-12-UNF	5.500	M20

All numbers given are nominal values and should be used for reference only.

HTH - TIE-ROD HYDRAULIC CYLINDERS

SEAL KIT NUMBER	
Part No.	SEAL KIT NUMBER
HTH20XX-ORB-P	HER SK-HTH201125-10
HTH25XX-10-ORB	HER SK-HTH251250-10
HTH3004-10-ORB to HTH3014-10-ORB	HER SK-HTH301250-10
HTH3016-10-ORB to HTH3048-10-ORB	HER SK-HTH301500-10
HTH3504-10-ORB to HTH3514-10-ORB	HER SK-HTH351250-10
HTH3516-10-ORB to HTH3548-10-ORB	HER SK-HTH351500-10
HTH4004-10-ORB to HTH4014-10-ORB	HER SK-HTH401500-10
HTH4016-10-ORB	HER SK-HTH401750-10
HTH4016-ASAE-10-ORB	HER SK-HTH402000-10
HTH4018-10-ORB - HTH4024-10-ORB	HER SK-HTH401750-10
HTH4030-10-ORB - HTH4048-10-ORB	HER SK-HTH402000-10
HTH50XX-10-ORB	HER SK-HTH502000-10



ITEM	DESCRIPTION	QTY
12	Steel Plug (SAE)	1
13	Plug O-Ring (SAE)	3
14	Clevis Lock Bolt	1
15	Clevis Lock Nut	1
16	Stover Locknut	1
17	Rod O-Ring	1
18	Piston Seal	1
19	Wiper	1
20	Rod Seal	1
21	Gland Back-Up Ring	2
22	Gland O-Ring	2

ITEM	DESCRIPTION	QTY
1	Barrel (Tube)	1
2	Rod	1
3	End Cap	1
4	Gland	1
5	Piston	1
6	Threaded Clevis	1
7	Tie-Rod	4
8	Tie-Rod Nut	8
9	Pin	2
10	Cotterpin	4
11	Plastic Plug (SAE)	2

HTH

3000 PSI WP



PART No.		STROKE	ROD DIAMETER	DIMENSIONS		G	PORT	PIN (B,D)	WEIGHT (LBS)
				RETRACTED	EXTRACTED				
HTH 2" BORE - 3000PSI WP	HTH2004-10-ORB	4"	1 1/8"	14 1/4"	18 1/4"	3.375"	SAE#8 (1/2" NPT Available)	1"	17
	HTH2006-10-ORB	6"		16 1/4"	22 1/4"				19
	HTH2008-10-ORB	8"		18 1/4"	26 1/4"				20
	HTH2008-ASAE-10-ORB	8"		20 1/4"	28 1/4"	5.375"			21
	HTH2010-10-ORB	10"		20 1/4"	30 1/4"	3.375"			22
	HTH2012-10-ORB	12"		22 1/4"	34 1/4"				23
	HTH2014-10-ORB	14"		24 1/4"	38 1/4"				25
	HTH2016-10-ORB	16"		26 1/4"	42 1/4"	3.375"			26
	HTH2018-10-ORB	18"		28 1/4"	46 1/4"				28
	HTH2020-10-ORB	20"		30 1/4"	50 1/4"				29
	HTH2024-10-ORB	24"		34 1/4"	58 1/4"				32
	HTH2030-10-ORB	30"		40 1/4"	70 1/4"				36
	HTH2036-10-ORB	36"		46 1/4"	82 1/4"				41
	HTH2040-10-ORB	40"		50 1/4"	90 1/4"				45
	HTH2048-10-ORB	48"		58 1/4"	106 1/4"				51

HTH 2.5" BORE - 3000PSI WP	HTH2504-10-ORB	4"	1 1/4"	14 1/4"	18 1/4"	3.375"	SAE#8 (1/2" NPT Available)	18
	HTH2506-10-ORB	6"		16 1/4"	22 1/4"			21
	HTH2508-10-ORB	8"		18 1/4"	26 1/4"			23
	HTH2508-ASAE-10-ORB	8"		20 1/4"	28 1/4"	5.375"		24
	HTH2510-10-ORB	10"		20 1/4"	30 1/4"	3.375"		25
	HTH2512-10-ORB	12"		22 1/4"	34 1/4"			26
	HTH2514-10-ORB	14"		24 1/4"	38 1/4"			28
	HTH2516-10-ORB	16"		26 1/4"	42 1/4"	3.375"		30
	HTH2518-10-ORB	18"		28 1/4"	46 1/4"			33
	HTH2520-10-ORB	20"		30 1/4"	50 1/4"			34
	HTH2524-10-ORB	24"		34 1/4"	58 1/4"			40
	HTH2530-10-ORB	30"		40 1/4"	70 1/4"			43
	HTH2536-10-ORB	36"		46 1/4"	82 1/4"			49
	HTH2540-10-ORB	40"		50 1/4"	90 1/4"			54
	HTH2548-10-ORB	48"		58 1/4"	106 1/4"			60

All numbers given are nominal values and should be used for reference only.

HTH - TIE-ROD HYDRAULIC CYLINDERS

PART No.	STROKE	ROD DIAMETER	DIMENSIONS		G	PORT	PIN (B,D)	WEIGHT (LBS)
			RETRACTED	EXTRACTED				
HTH 3" BORE - 3000PSI WP	HTH3004-10-ORB	4"	1 1/4"	14 1/4"	18 1/4"	3.375"	1"	23
	HTH3006-10-ORB	6"		16 1/4"	22 1/4"			26
	HTH3008-10-ORB	8"		18 1/4"	26 1/4"			28
	HTH3008-ASAE-10-ORB	8"		20 1/4"	28 1/4"	3.375"		29
	HTH3010-10-ORB	10"		20 1/4"	30 1/4"	3.375"		30
	HTH3012-10-ORB	12"		22 1/4"	34 1/4"			33
	HTH3014-10-ORB	14"		24 1/4"	38 1/4"			35
	HTH3016-10-ORB	16"	1 1/2"	26 1/4"	42 1/4"	8.625"	38	
	HTH3016-ASAE-10-ORB	16"		31 1/2"	47 1/2"		1 1/4"	40
	HTH3018-10-ORB	18"		28 1/4"	46 1/4"	3.375"	40	
	HTH3020-10-ORB	20"		30 1/4"	50 1/4"		42	
	HTH3024-10-ORB	24"		34 1/4"	58 1/4"		47	
	HTH3030-10-ORB	30"		40 1/4"	70 1/4"		1"	54
	HTH3036-10-ORB	36"		46 1/4"	82 1/4"		61	
	HTH3040-10-ORB	40"		50 1/4"	90 1/4"		66	
	HTH3048-10-ORB	48"		58 1/4"	106 1/4"		75	

HTH 3.5" BORE - 3000PSI WP	HTH3504-10-ORB	4"	1 1/4"	14 1/4"	18 1/4"	3.50"	SAE#8 (1/2" NPT Available)	1"	27
	HTH3506-10-ORB	6"		16 1/4"	22 1/4"				30
	HTH3508-10-ORB	8"		18 1/4"	26 1/4"	33			
	HTH3508-ASAE-10-ORB	8"		20 1/4"	28 1/4"	34			
	HTH3510-10-ORB	10"		20 1/4"	30 1/4"	36			
	HTH3512-10-ORB	12"		22 1/4"	34 1/4"	38			
	HTH3514-10-ORB	14"		24 1/4"	38 1/4"	41			
	HTH3516-10-ORB	16"	1 1/2"	26 1/4"	42 1/4"	8.80"		1 1/4"	44
	HTH3516-ASAE-10-ORB	16"		31 1/2"	47 1/2"				46
	HTH3518-10-ORB	18"		28 1/4"	46 1/4"	3.50"		1"	47
	HTH3520-10-ORB	20"		30 1/4"	50 1/4"				49
	HTH3524-10-ORB	24"		34 1/4"	58 1/4"				55
	HTH3530-10-ORB	30"		40 1/4"	70 1/4"				63
	HTH3536-10-ORB	36"		46 1/4"	82 1/4"				72
	HTH3540-10-ORB	40"		50 1/4"	90 1/4"				77
	HTH3548-10-ORB	48"		58 1/4"	106 1/4"				88

HTH

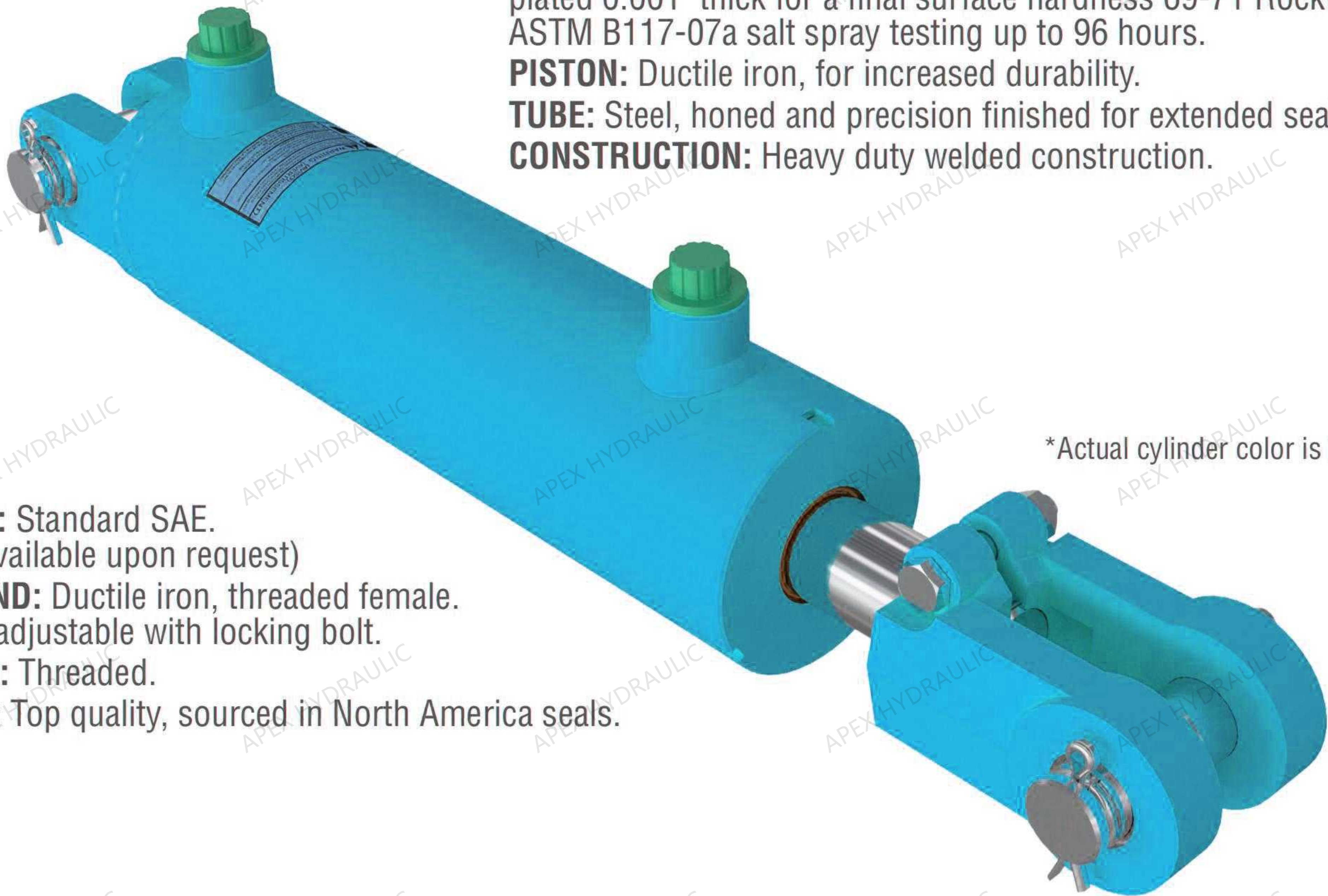
3000 PSI WP



PART No.		STROKE	ROD DIAMETER	DIMENSIONS		G	PORT	PIN (B,D)	WEIGHT (LBS)
				RETRACTED	EXTRACTED				
HTH 4" BORE - 3000PSI WP	HTH4004-10-ORB	4"	1 1/2"	14 1/4"	18 1/4"	3.375"	SAE#8 (1/2" NPT Available)	1"	34
	HTH4006-10-ORB	6"		16 1/4"	22 1/4"				38
	HTH4008-10-ORB	8"		18 1/4"	26 1/4"				42
	HTH4008-ASAE-10-ORB	8"		20 1/4"	28 1/4"	5.375"			43
	HTH4010-10-ORB	10"		20 1/4"	30 1/4"	3.375"			45
	HTH4012-10-ORB	12"		22 1/4"	34 1/4"				48
	HTH4014-10-ORB	14"		24 1/4"	38 1/4"				52
	HTH4016-10-ORB	16"	1 3/4"	26 1/4"	42 1/4"	55			
	HTH4016-ASAE-10-ORB	16"	2"	31 1/2"	47 1/2"	8.625"		1 1/4"	59
	HTH4018-10-ORB	18"	1 3/4"	28 1/4"	46 1/4"	3.875"		1"	59
	HTH4020-10-ORB	20"		30 1/4"	50 1/4"				62
	HTH4024-10-ORB	24"		34 1/4"	58 1/4"				69
	HTH4030-10-ORB	30"	2"	40 1/4"	70 1/4"				79
	HTH4036-10-ORB	36"		46 1/4"	82 1/4"				90
	HTH4040-10-ORB	40"		50 1/4"	90 1/4"				97
	HTH4048-10-ORB	48"		58 1/4"	106 1/4"				110

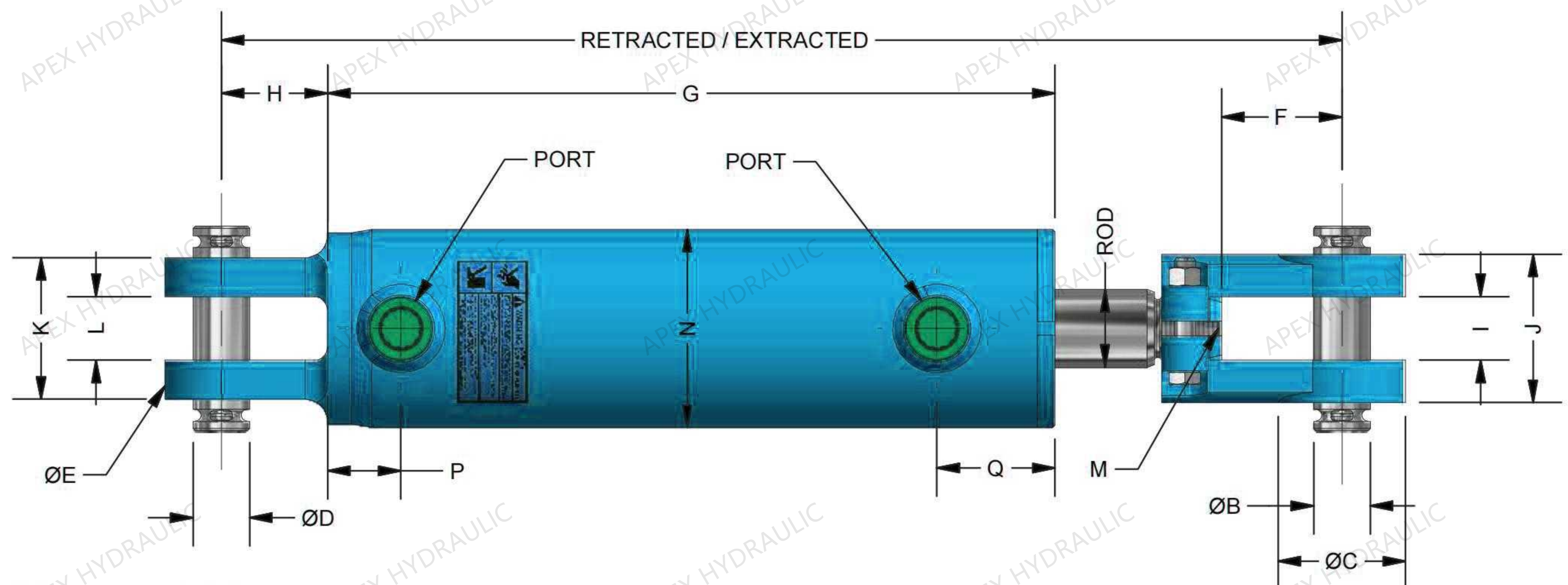
HTH 5" BORE - 3000PSI WP	HTH5004-10-ORB	4"	2"	16 1/4"	20 1/4"	3.75"	SAE#8 (1/2" NPT Available)	1 1/4"	53
	HTH5006-10-ORB	6"		18 1/4"	24 1/4"				55
	HTH5008-10-ORB	8"		20 1/4"	28 1/4"				64
	HTH5008-ASAE-10-ORB	8"		22 1/4"	30 1/4"	5.75"			66
	HTH5010-10-ORB	10"		22 1/4"	32 1/4"	3.75"			68
	HTH5012-10-ORB	12"		24 1/4"	36 1/4"				77
	HTH5014-10-ORB	14"		26 1/4"	40 1/4"				82
	HTH5016-10-ORB	16"		28 1/4"	44 1/4"	7.00"			87
	HTH5016-ASAE-10-ORB	16"		31 1/2"	47 1/2"				90
	HTH5018-10-ORB	18"		30 1/4"	48 1/4"	3.75"			92
	HTH5020-10-ORB	20"		32 1/4"	52 1/4"				93
	HTH5024-10-ORB	24"		36 1/4"	60 1/4"				106
	HTH5030-10-ORB	30"		42 1/4"	72 1/4"				121
	HTH5036-10-ORB	36"		48 1/4"	84 1/4"				
	HTH5040-10-ORB	40"		52 1/4"	92 1/4"				
	HTH5048-10-ORB	48"		60 1/4"	108 1/4"				

All numbers given are nominal values and should be used for reference only.



*Actual cylinder color is BLACK

- PORTS:** Standard SAE.
(NPT available upon request)
- ROD END:** Ductile iron, threaded female.
clevis, adjustable with locking bolt.
- GLAND:** Threaded.
- SEALS:** Top quality, sourced in North America seals.



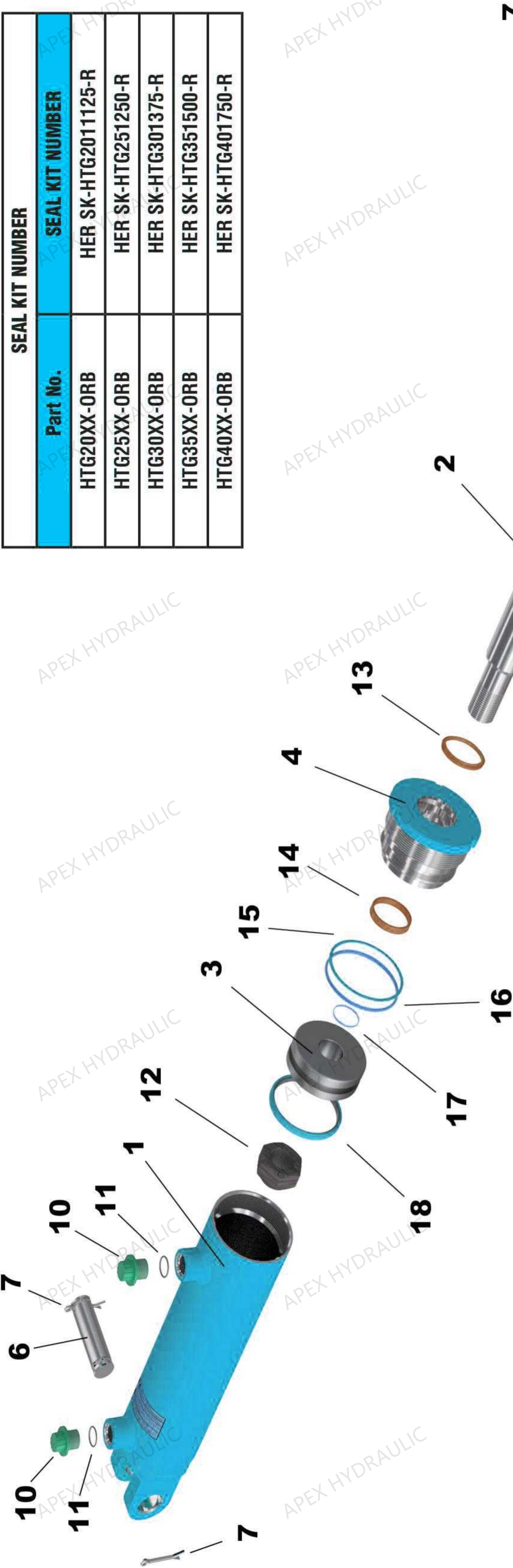
*All dimensions are in inches

Part No	BORE	ROD	C	E	B, D	F	H	I	K	J	L	M	N	P	Q
HTG20-	2.00	1.125	2.00[2.25]	2.087[2.0]	1.000	2.125[1.937]	1.750	1.125[1.063]	1.125	2.500	2.125	1 1/8-12UN	2.375	1.275	2.311
HTG25-	2.50	1.250	2.00[2.25]	2.000	1.000	2.125[1.937]	1.750	1.125[1.063]	1.125	2.500	2.500	1 1/8-12UN	2.875	1.300	2.326
HTG30-	3.00	1.375	2.250	2.250	1.000	2.125	1.750	1.125[1.063]	1.125	2.625	2.500	1 1/4-12UN	3.375	1.300	2.145
HTG35-	3.50	1.500	2.500	2.500	1.000	2.125[1.875]	1.750	1.125[1.063]	1.125	2.625	2.750	1 1/4-12UN	3.875	1.338	2.133
HTG40-	4.00	1.750	2.500	2.500	1.000	2.125[1.875]	1.750	1.125[1.063]	1.125	2.625	2.750	1 1/2-12UN	4.375	1.425	2.138

HTG

3000 PSI WP

SEAL KIT NUMBER	
Part No.	SEAL KIT NUMBER
HTG20XX-ORB	HER SK-HTG2011125-R
HTG25XX-ORB	HER SK-HTG251250-R
HTG30XX-ORB	HER SK-HTG301375-R
HTG35XX-ORB	HER SK-HTG351500-R
HTG40XX-ORB	HER SK-HTG401750-R



ITEM	DESCRIPTION	QTY
1	Barrel	1
2	Rod	1
3	Piston	1
4	Gland	1
5	Threaded Clevis	1
6	Pin	2
7	Cotterpin	4
8	Clevis Lock Bolt	1
9	Clevis Lock Nut	1
10	Plastic Plug (SAE)	2
11	Plug O-Ring (SAE)	2
12	Stover Locknut	1
13	Wiper	1
14	Rod Seal	1
15	Gland Back-Up Ring	1
16	Gland O-Ring	1
17	Rod O-Ring	1
18	Piston Seal	1

All numbers given are nominal values and should be used for reference only.

HTG - WELDED HYDRAULIC CYLINDERS

PART No.	STROKE	ROD DIAMETER	DIMENSIONS		G	PORT	PIN (B, D)	WEIGHT (LBS)
			RETRACTED	EXTRACTED				
HTG 2" BORE 3000PSI WP	HTG2004-ORB	4"	1 1/8"	14 1/4"	18 1/4"	8.92"	SAE #6 (1/2" NPT Available)	16
	HTG2006-ORB	6"		16 1/4"	22 1/4"	10.92"		17
	HTG2008-ORB	8"		18 1/4"	26 1/4"	12.92"		18
	HTG2008-ASAE-ORB	8"		20 1/4"	28 1/4"	12.92"		19
	HTG2010-ORB	10"		20 1/4"	30 1/4"	14.92"		20
	HTG2012-ORB	12"		22 1/4"	34 1/4"	16.92"		22
	HTG2014-ORB	14"		24 1/4"	38 1/4"	18.92"		23
	HTG2016-ORB	16"		26 1/4"	42 1/4"	20.92"		25
	HTG2018-ORB	18"		28 1/4"	46 1/4"	22.92"		26
	HTG2020-ORB	20"		30 1/4"	50 1/4"	24.92"		28
	HTG2024-ORB	24"		34 1/4"	58 1/4"	28.92"		31
	HTG2028-ORB	28"		38 1/4"	66 1/4"	32.92"		37
	HTG2030-ORB	30"		40 1/4"	70 1/4"	34.92"		39
	HTG2032-ORB	32"		42 1/4"	74 1/4"	36.92"		41
	HTG2034-ORB	34"		44 1/4"	78 1/4"	38.92"		43
	HTG2036-ORB	36"		46 1/4"	82 1/4"	40.92"		45
HTG 2.5" BORE 3000PSI WP	HTG2504-ORB	4"	1 1/4"	14 1/4"	18 1/4"	9"	SAE #8 (1/2" NPT Available)	17
	HTG2506-ORB	6"		16 1/4"	22 1/4"	11"		18
	HTG2508-ORB	8"		18 1/4"	26 1/4"	13"		20
	HTG2508-ASAE-ORB	8"		20 1/4"	28 1/4"	13"		21
	HTG2510-ORB	10"		20 1/4"	30 1/4"	15"		22
	HTG2512-ORB	12"		22 1/4"	34 1/4"	17"		23
	HTG2514-ORB	14"		24 1/4"	38 1/4"	19"		25
	HTG2516-ORB	16"		26 1/4"	42 1/4"	21"		27
	HTG2518-ORB	18"		28 1/4"	46 1/4"	23"		29
	HTG2520-ORB	20"		30 1/4"	50 1/4"	25"		31
	HTG2524-ORB	24"		34 1/4"	58 1/4"	29"		35
	HTG2528-ORB	28"		38 1/4"	66 1/4"	33"		37
	HTG2530-ORB	30"		40 1/4"	70 1/4"	35"		41
	HTG2532-ORB	32"		42 1/4"	74 1/4"	37"		43
	HTG2534-ORB	34"		44 1/4"	78 1/4"	39"		45
	HTG2536-ORB	36"		46 1/4"	82 1/4"	41"		47

All numbers given are nominal values and should be used for reference only.

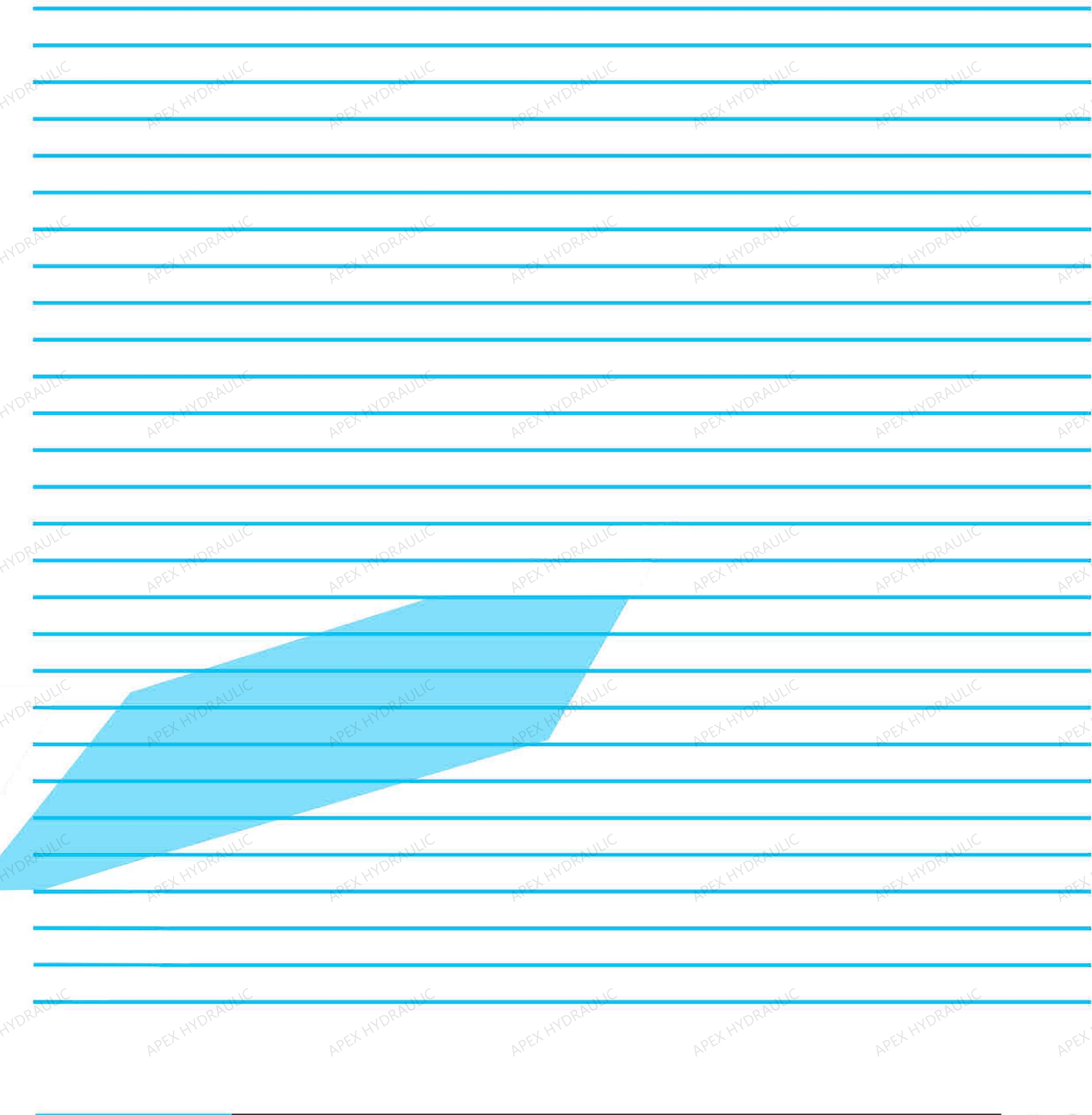
HTG 3000 PSI WP

PART No.	STROKE	ROD DIAMETER	DIMENSIONS		G	PORT	PIN (B,D)	WEIGHT (LBS)
			RETRACTED	EXTRACTED				
HTG 3" BORE 3000PSI WP	HTG3004-ORB	4"	1 3/8"	14 1/4"	18 1/4"	8.895"	SAE #8 (1/2" NPT Available)	18
	HTG3006-ORB	6"		16 1/4"	22 1/4"	10.895"		20
	HTG3008-ORB	8"		18 1/4"	26 1/4"	12.895"		22
	HTG3008-ASAE-ORB	8"		20 1/4"	28 1/4"	12.895"		23
	HTG3010-ORB	10"		20 1/4"	30 1/4"	14.895"		26
	HTG3012-ORB	12"		22 1/4"	34 1/4"	16.895"		28
	HTG3014-ORB	14"		24 1/4"	38 1/4"	18.895"		31
	HTG3016-ORB	16"		26 1/4"	42 1/4"	20.895"		33
	HTG3018-ORB	18"		28 1/4"	46 1/4"	22.895"		35
	HTG3020-ORB	20"		30 1/4"	50 1/4"	24.895"		39
	HTG3024-ORB	24"		34 1/4"	58 1/4"	28.895"		43
	HTG3028-ORB	28"		38 1/4"	66 1/4"	32.895"		46
	HTG3030-ORB	30"		40 1/4"	70 1/4"	34.895"		49
	HTG3032-ORB	32"		42 1/4"	74 1/4"	36.895"		50
	HTG3034-ORB	34"		44 1/4"	78 1/4"	38.895"		53
	HTG3036-ORB	36"		46 1/4"	82 1/4"	40.895"		54
HTG 3.5" BORE 3000PSI WP	HTG3504-ORB	4"	1 1/2"	14 1/4"	18 1/4"	8.92"	SAE #8 (1/2" NPT Available)	25
	HTG3506-ORB	6"		16 1/4"	22 1/4"	10.92"		27
	HTG3508-ORB	8"		18 1/4"	26 1/4"	12.92"		28
	HTG3508-ASAE-ORB	8"		20 1/4"	28 1/4"	12.92"		29
	HTG3510-ORB	10"		20 1/4"	30 1/4"	14.92"		31
	HTG3512-ORB	12"		22 1/4"	34 1/4"	16.92"		33
	HTG3514-ORB	14"		24 1/4"	38 1/4"	18.92"		35
	HTG3516-ORB	16"		26 1/4"	42 1/4"	20.92"		36
	HTG3518-ORB	18"		28 1/4"	46 1/4"	22.92"		38
	HTG3520-ORB	20"		30 1/4"	50 1/4"	24.92"		43
	HTG3524-ORB	24"		34 1/4"	58 1/4"	28.92"		48
	HTG3528-ORB	28"		38 1/4"	66 1/4"	32.92"		52
	HTG3530-ORB	30"		40 1/4"	70 1/4"	34.92"		54
	HTG3532-ORB	32"		42 1/4"	74 1/4"	36.92"		56
	HTG3534-ORB	34"		44 1/4"	78 1/4"	38.92"		58
	HTG3536-ORB	36"		46 1/4"	82 1/4"	40.92"		60

All numbers given are nominal values and should be used for reference only.

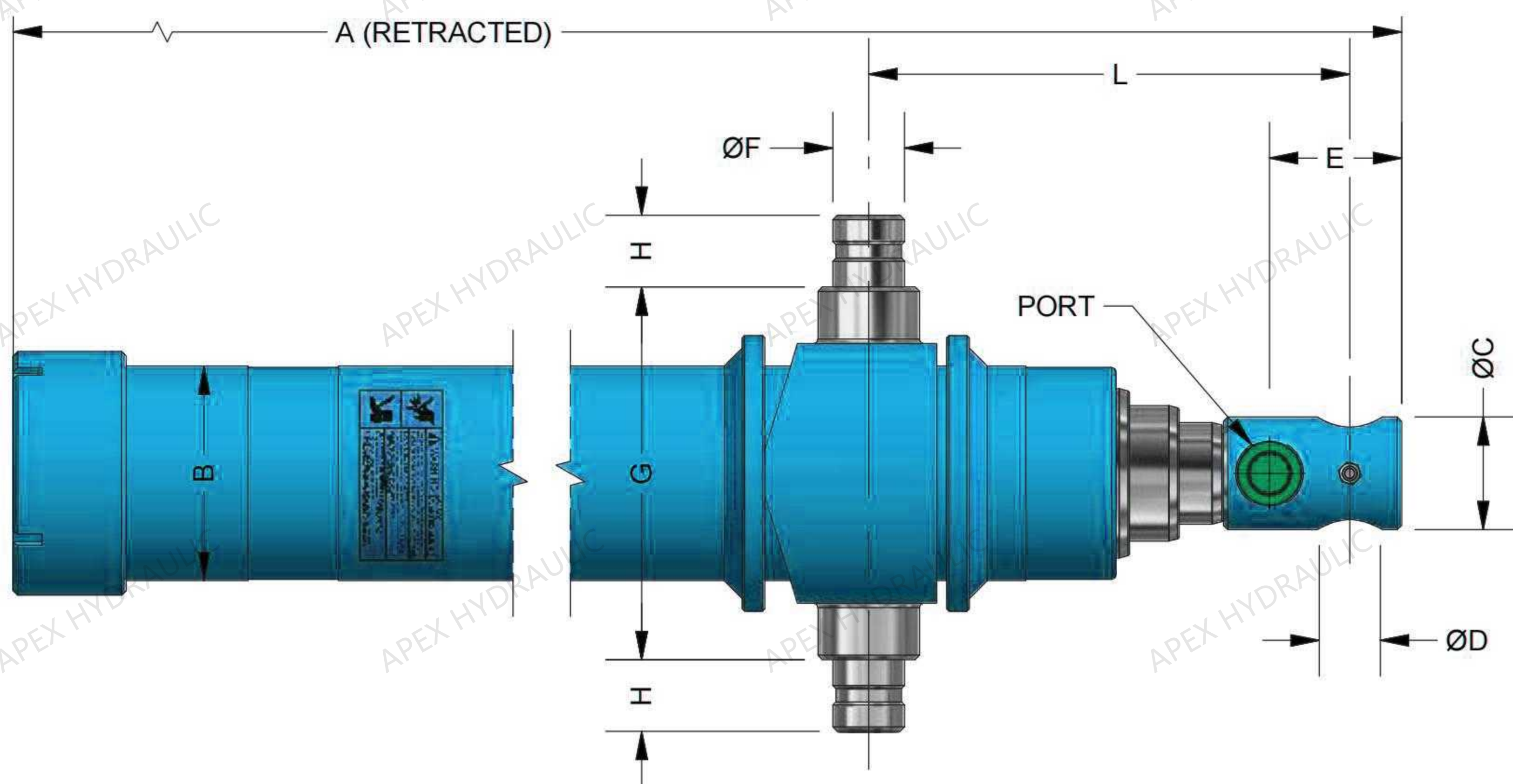
HTG - WELDED HYDRAULIC CYLINDERS

PART No.	STROKE	ROD DIAMETER	DIMENSIONS		G	PORT	PIN (B,D)	WEIGHT (LBS)	
			RETRACTED	EXTRACTED					
HTG 4" BORE 3000PSI WP	HTG4004-ORB	4"	1 3/4"	14 1/4"	18 1/4"	8.95"	SAE #8 (1/2" NPT Available)	1"	35
	HTG4006-ORB	6"		16 1/4"	22 1/4"	10.95"			37
	HTG4008-ORB	8"		18 1/4"	26 1/4"	12.95"			38
	HTG4008-ASAE-ORB	8"		20 1/4"	28 1/4"	12.95"			40
	HTG4010-ORB	10"		20 1/4"	30 1/4"	14.95"			43
	HTG4012-ORB	12"		22 1/4"	34 1/4"	16.95"			45
	HTG4014-ORB	14"		24 1/4"	38 1/4"	18.95"			48
	HTG4016-ORB	16"		26 1/4"	42 1/4"	20.95"			54
	HTG4018-ORB	18"		28 1/4"	46 1/4"	22.95"			56
	HTG4020-ORB	20"		30 1/4"	50 1/4"	24.95"			58
	HTG4024-ORB	24"		34 1/4"	58 1/4"	28.95"			60
	HTG4028-ORB	28"		38 1/4"	66 1/4"	32.95"			63
	HTG4030-ORB	30"		40 1/4"	70 1/4"	34.95"			65
	HTG4032-ORB	32"		42 1/4"	74 1/4"	36.95"			68
	HTG4034-ORB	34"		44 1/4"	78 1/4"	38.95"			72
	HTG4036-ORB	36"		46 1/4"	82 1/4"	40.95"			74



TELESCOPIC CYLINDER FOR 7 TONS AND 12 TONS INVERSE.

*Actual cylinder color is BLACK



7 TONS INVERSE													
PART No.	STROKE	A	B	C	D	E	F	G	H	L	PORT	WEIGHT [Lbs]	VOLUME [Gal.]
HTC-06033-ORB	60"	35.5"	3.75"	2"	1.063"	3.0"	1.25"	6.5"	1.25"	7"	SAE #8 (3/4-16UNF)	68	1,5
HTC-07833-ORB	78"	35.5"	3.75"	2"	1.063"	3.0"	1.25"	6.5"	1.25"	7"		68	1.9
HTC-09033-ORB	90"	39.5"	3.75"	2"	1.063"	3.0"	1.25"	6.5"	1.25"	7"		75	2.3
HTC-10833-ORB	108"	45"	3.75"	2"	1.063"	3.0"	1.25"	6.5"	1.25"	7"		101	2.6
12 TONS INVERSE													
HTC-07843-ORB	78"	34.75"	4.4"	2"	1.063"	3.0"	1.5"	7.5"	1.5"	7"	SAE #8 (3/4-16UNF)	106	3.2
HTC-09043-ORB	90"	38.75"	4.4"	2"	1.063"	3.0"	1.5"	7.5"	1.5"	7"		107	3.6
HTC-10843-ORB	108"	44.75"	4.4"	2"	1.063"	3.0"	1.5"	7.5"	1.5"	7"		132	4.3
HTC-12043-ORB	120"	48.75"	4.4"	2"	1.063"	3.0"	1.5"	7.5"	1.5"	7"		143	4.8
HTC-14443-ORB	144"	56.78"	4.4"	2"	1.063"	2.25"	1.5"	7.5"	1.5"	7"		166	5.8

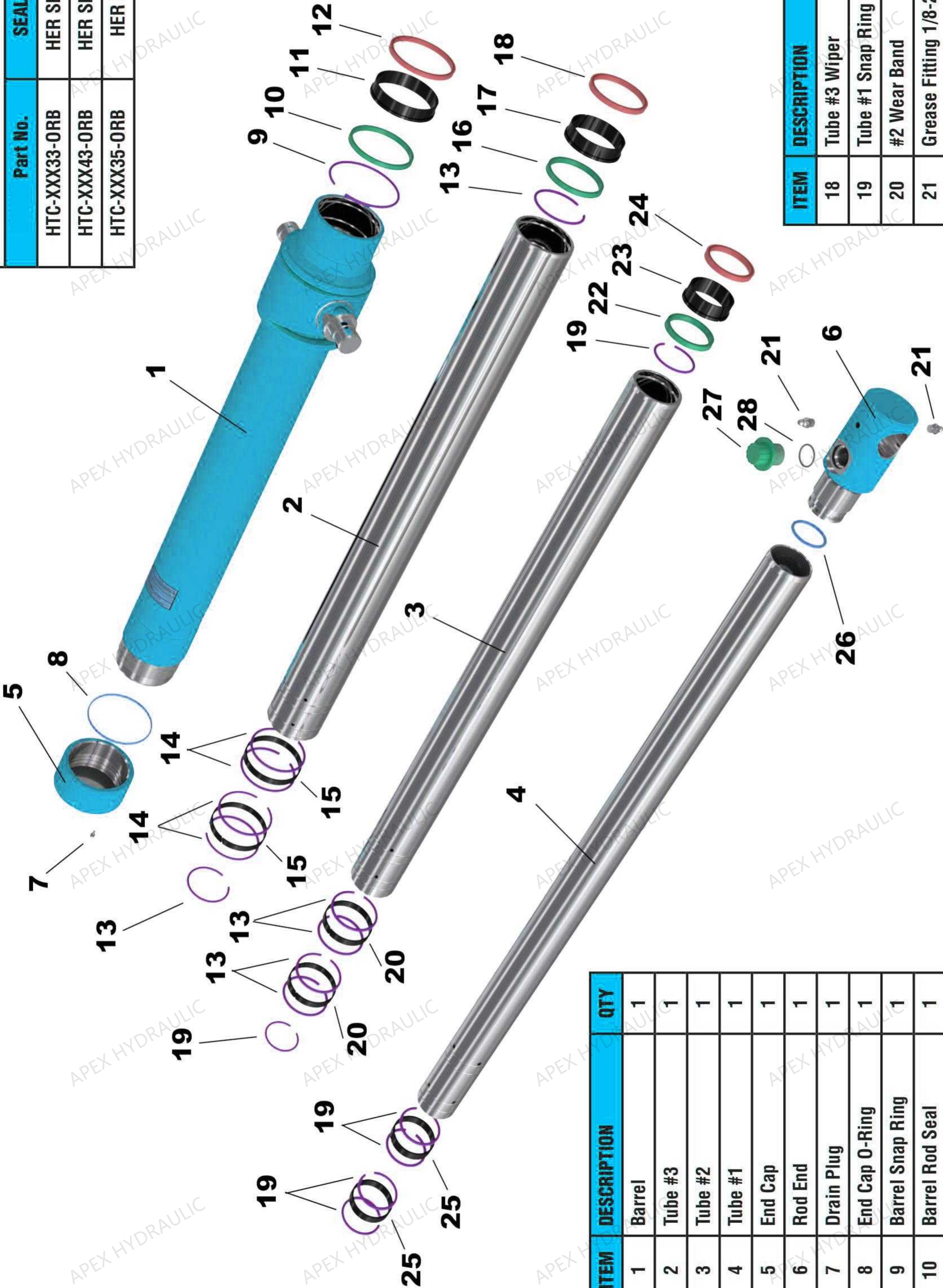
* All pictures may differ from the final products. Product specifications are subject to changes without notice.

All numbers given are nominal values and should be used for reference only.

HTC 3000 PSI WP

SEAL KIT NUMBER	
Part No.	SEAL KIT NUMBER
HTC-XXX33-ORB	HER SK-TEL-45-60-75
HTC-XXX43-ORB	HER SK-TEL-60-75-92
HTC-XXX35-ORB	HER SK-HTC110-3

ITEM	DESCRIPTION	QTY
18	Tube #3 Wiper	1
19	Tube #1 Snap Ring	6
20	#2 Wear Band	2
21	Grease Fitting 1/8-27 NPT	2
22	Tube #2 Rod Seal	1
23	Tube #2 Wear Band	1
24	Tube #2 Wiper	1
25	#1 Wear Band	2
26	Rod O-Ring	1
27	Plastic Plug (SAE)	1
28	Plug O-Ring (SAE)	1



ITEM	DESCRIPTION	QTY
1	Barrel	1
2	Tube #3	1
3	Tube #2	1
4	Tube #1	1
5	End Cap	1
6	Rod End	1
7	Drain Plug	1
8	End Cap O-Ring	1
9	Barrel Snap Ring	1
10	Barrel Rod Seal	1
11	Barrel Wear Band	1
12	Barrel Wiper	1
13	Tube #2 Snap Ring	6
14	Tube #3 Snap Ring	4
15	#3 Wear Band	2
16	Tube #3Rod Seal	1
17	Tube #3 Wear Band	1

* All pictures may differ from the final products. Product specifications are subject to changes without notice.

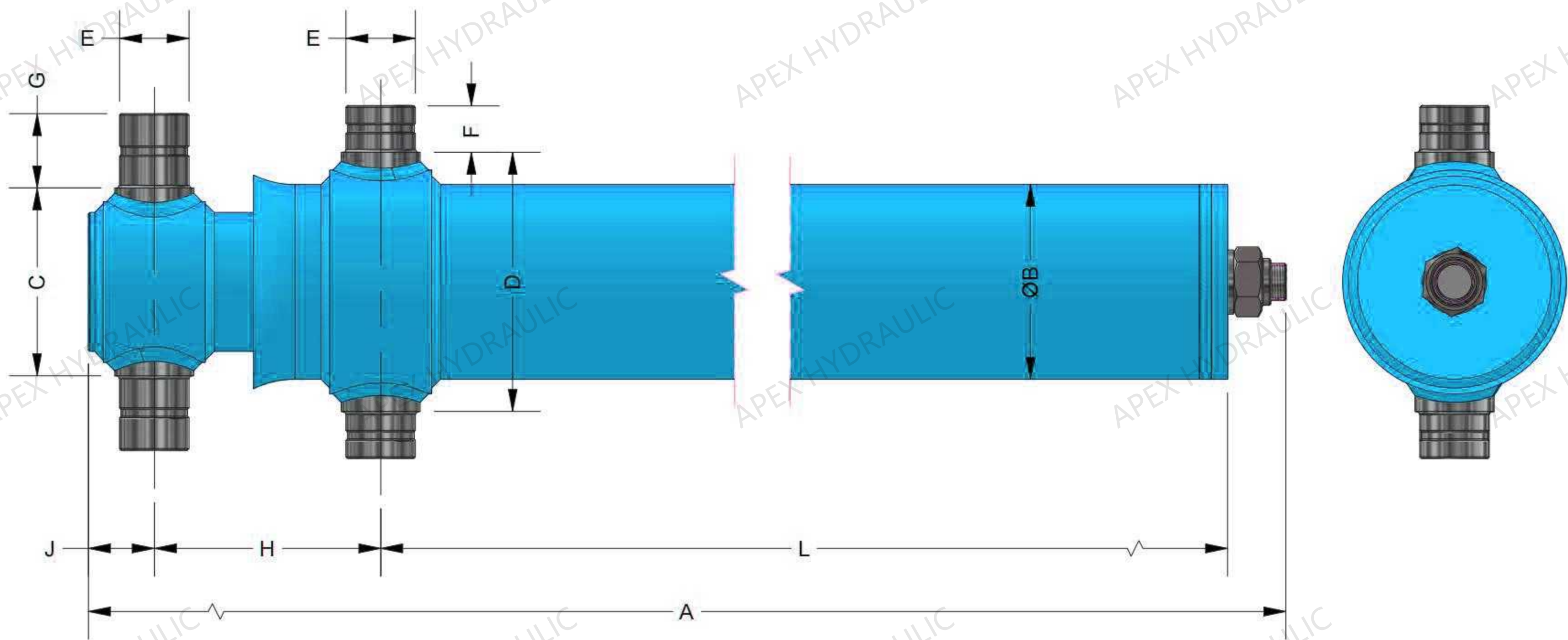
All numbers given are nominal values and should be used for reference only.

HTC - TELESCOPIC HYDRAULIC CYLINDERS

SINGLE ACTING DOUBLE TRUNNION TELESCOPIC CYLINDER
2500 PSI, 7 TONS INVERSE



*Actual cylinder color is BLACK



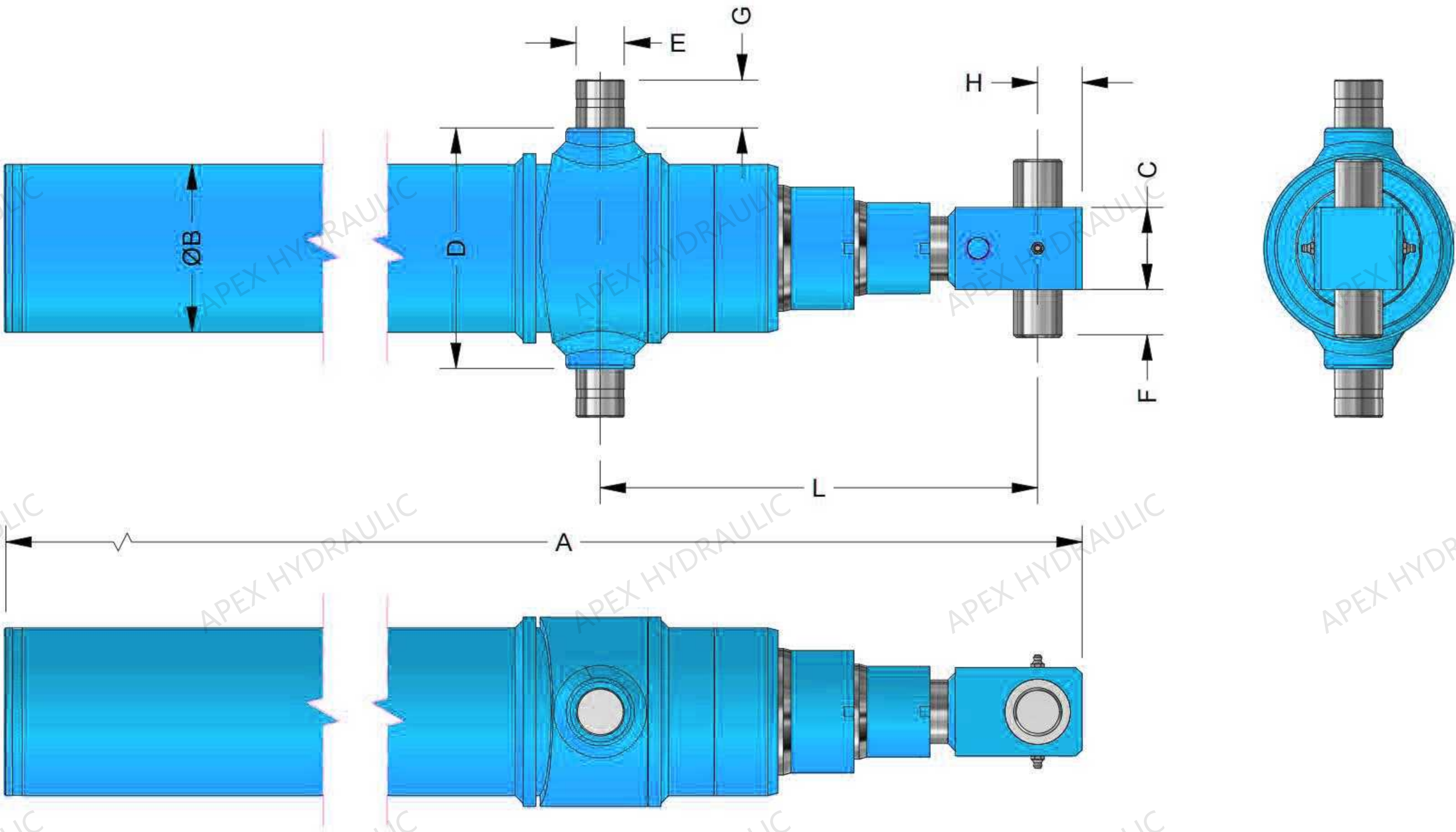
2500 PSI, 7 TONS INVERSE														
PART No.	STROKE	A	B	C	D	E	F	G	H	J	L	PORT	WEIGHT (LBS)	VOLUME (GAL.)
HTC-09035-ORB	90"	40.38"	5.236"	4.803"	6.748"	1.874"	1.252"	2"	5.512"	1,772	31.476"	SAE #12 (1 1/16-UN)	138	2.1
HTC-10835-ORB	108"	46.38"	5.236"	4.803"	6.748"	1.874"	1.252"	2"	5.512"	1,772	37.476"		157	2.5
HTC-12035-ORB	120"	50.38"	5.236"	4.803"	6.748"	1.874"	1.252"	2"	5.512"	1,772	41.476"		170	2.8

All numbers given are nominal values and should be used for reference only.

HTC 3000 PSI WP

DOUBLE ACTING, DOUBLE-TRUNNION TELESCOPIC CYLINDER
3000 PSI, PUSHING FORCE: 22 TONS; PULLING: 2 TONS

*Actual cylinder color is BLACK



PART No.	STROKE	A	B	C	D	E	F	G	H	L	PORT	WEIGHT [Lbs]	VOLUME [Gal.]
HTC-12055-ORB	120"	58.346"	5.236"	2.560"	7.52"	1.5"	1.496"	1.496"	1.378"	13.583"	SAE#8 (3/4-16UNF)	228.3	5.29

All numbers given are nominal values and should be used for reference only.

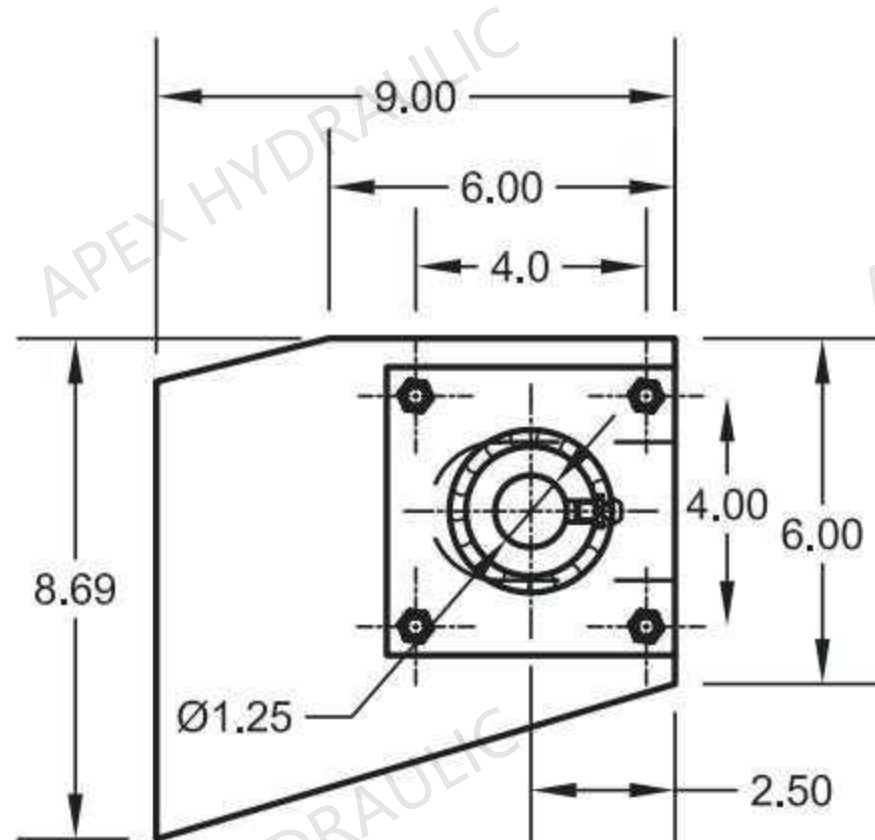
ORDER INFORMATION

MODEL	HTC - 078	33 - ORB - 00	Design code
STROKE			Factory Specification
CAPACITY	33 - for 7 tons 43 - for 12 tons	PORT	Omit - 1/2 NPT ORB - SAE#8-3/4-16UNF

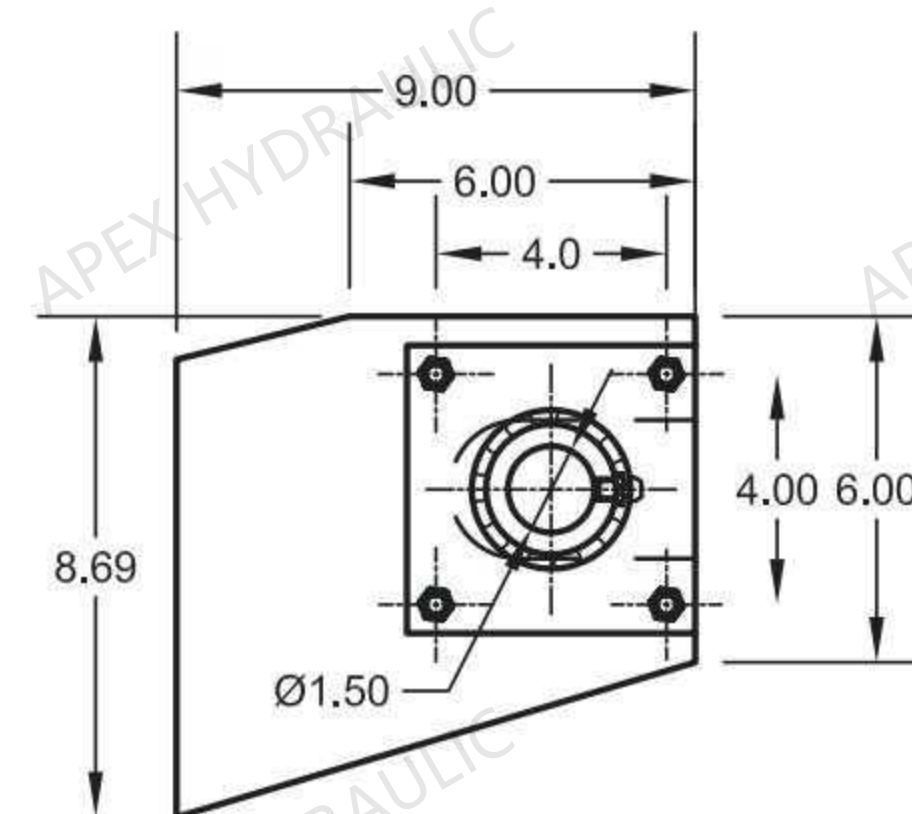
ACCESSORIES FOR TELESCOPIC CYLINDERS

MOUNTING BRACKETS

HTCS07-A
for 7 tons

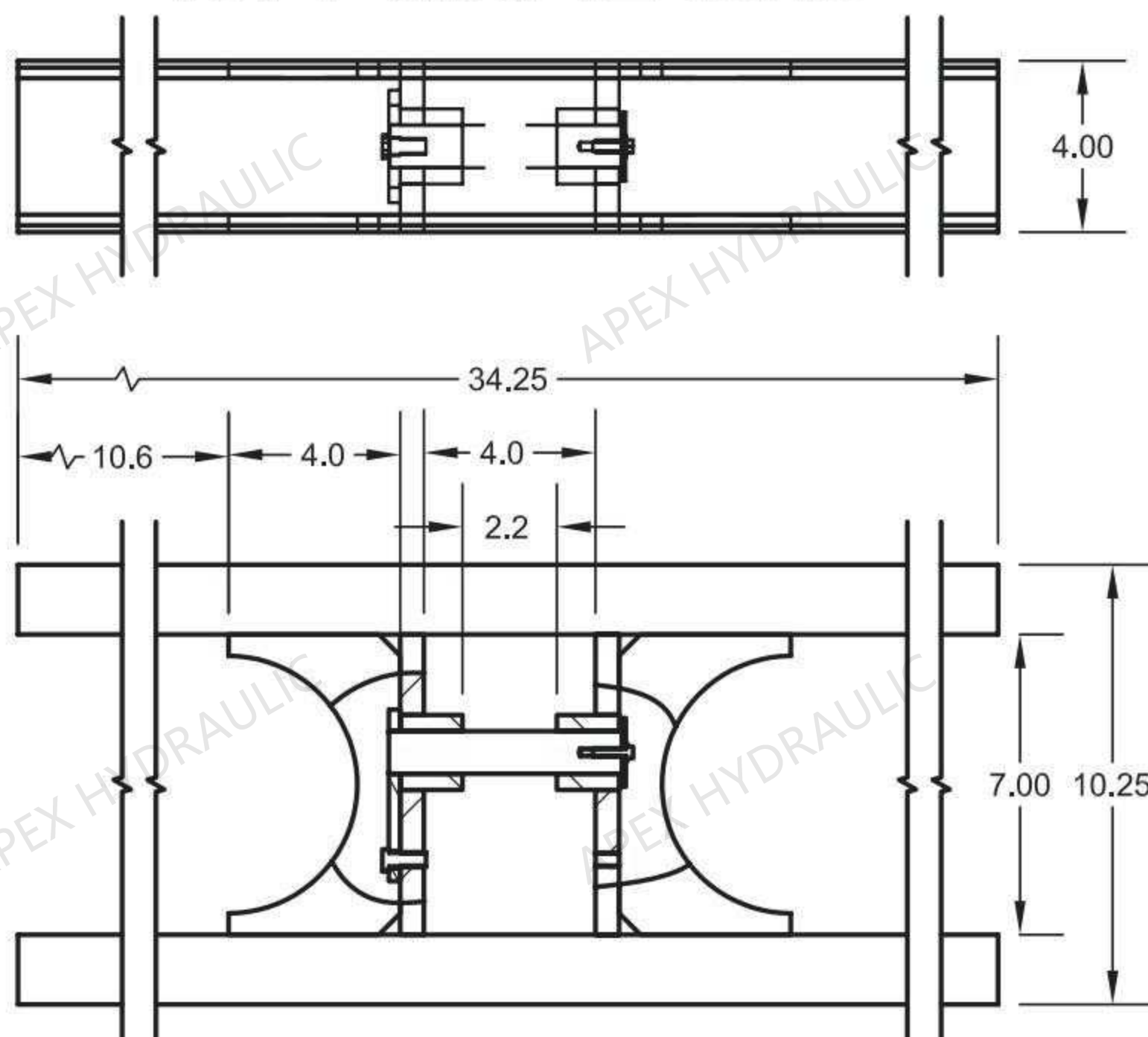


HTCS12-A
for 12 tons



SUPPORT FRAME

for 7 and 12 tons



HTC SB07-A

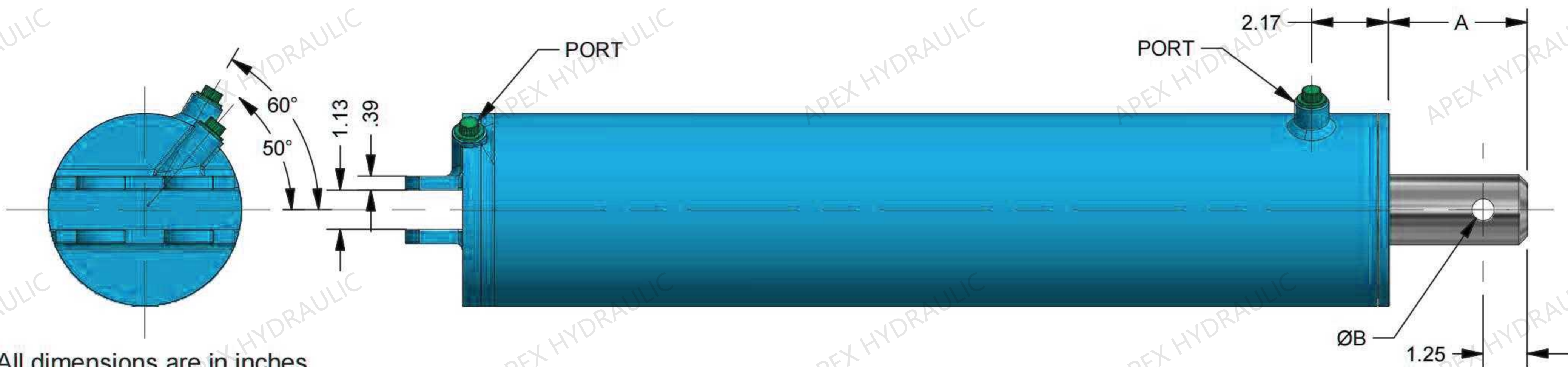
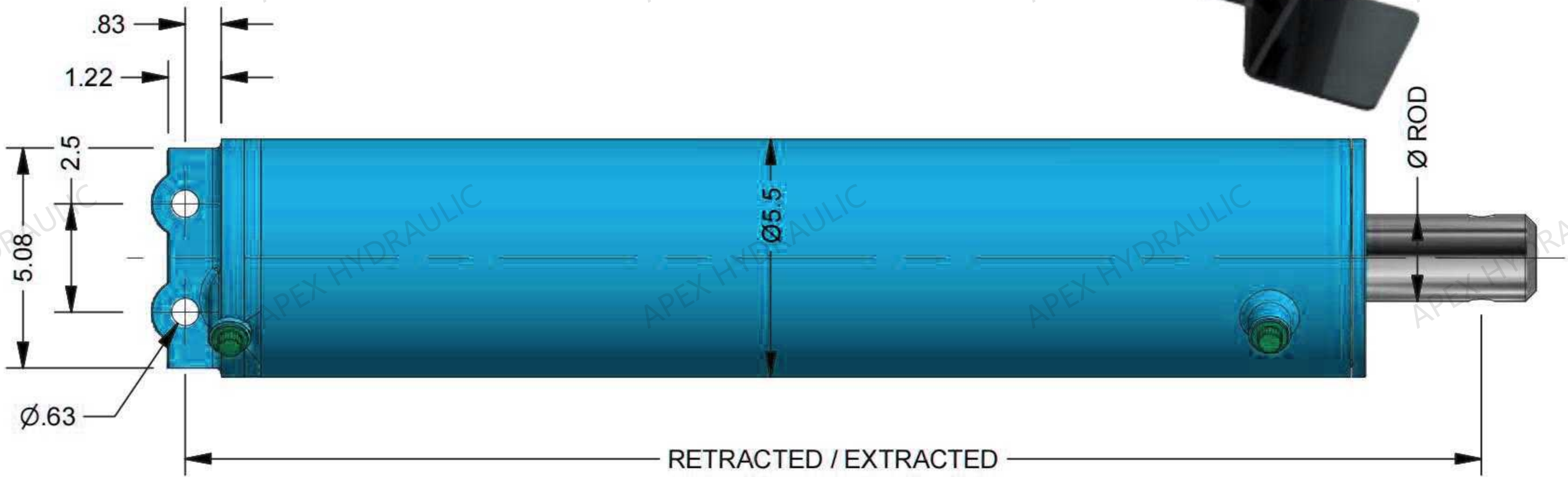


All numbers given are nominal values and should be used for reference only.

HHT 3000 PSI



*Actual cylinder color is BLACK
MADE FOR SCISSOR HOISTS.

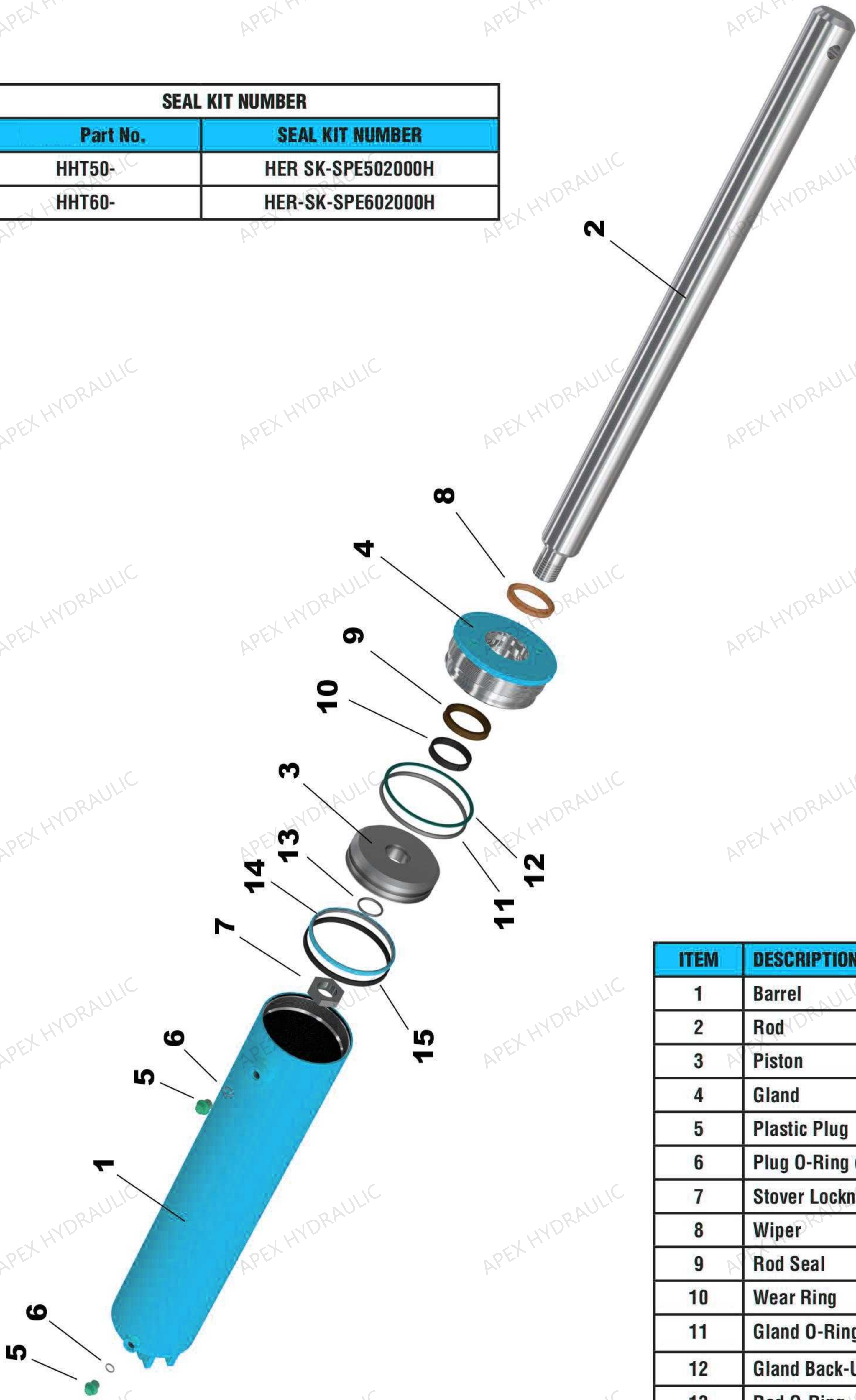


*All dimensions are in inches

Part No.	BORE	A	B	STROKE	ROD DIAMETER	RETRACTED	EXTRACTED	PORT	WEIGHT (LBS)
HHT501575	5.00	3.5	Ø0.69	15.75"	Ø2"	23.5"	39.25"	SAE#6	66.1
HHT502000	5.00	3.15	Ø0.63	20"	Ø2"	27.5"	47.5"	SAE#6	81.4
HHT502150	5.00	3.5	Ø0.63	21.50"	Ø2"	29.375"	50.875"	SAE#6	86.8
HHT601575	6.00	3.5	Ø0.69	15.75"	Ø2"	23.5"	39.25"	SAE#6	88.0
HHT602150	6.00	3.5	Ø0.63	21.50"	Ø2"	29.375"	50.875"	SAE#6	101.2

HHT - HOIST HYDRAULIC CYLINDERS

SEAL KIT NUMBER	
Part No.	SEAL KIT NUMBER
HHT50-	HER SK-SPE502000H
HHT60-	HER-SK-SPE602000H



ITEM	DESCRIPTION	QTY
1	Barrel	1
2	Rod	1
3	Piston	1
4	Gland	1
5	Plastic Plug	2
6	Plug O-Ring (SAE)	2
7	Stover Locknut	1
8	Wiper	1
9	Rod Seal	1
10	Wear Ring	1
11	Gland O-Ring	1
12	Gland Back-Up Ring	1
13	Rod O-Ring	1
14	Piston Seal	1
15	Piston Wear Ring	1

All numbers given are nominal values and should be used for reference only.

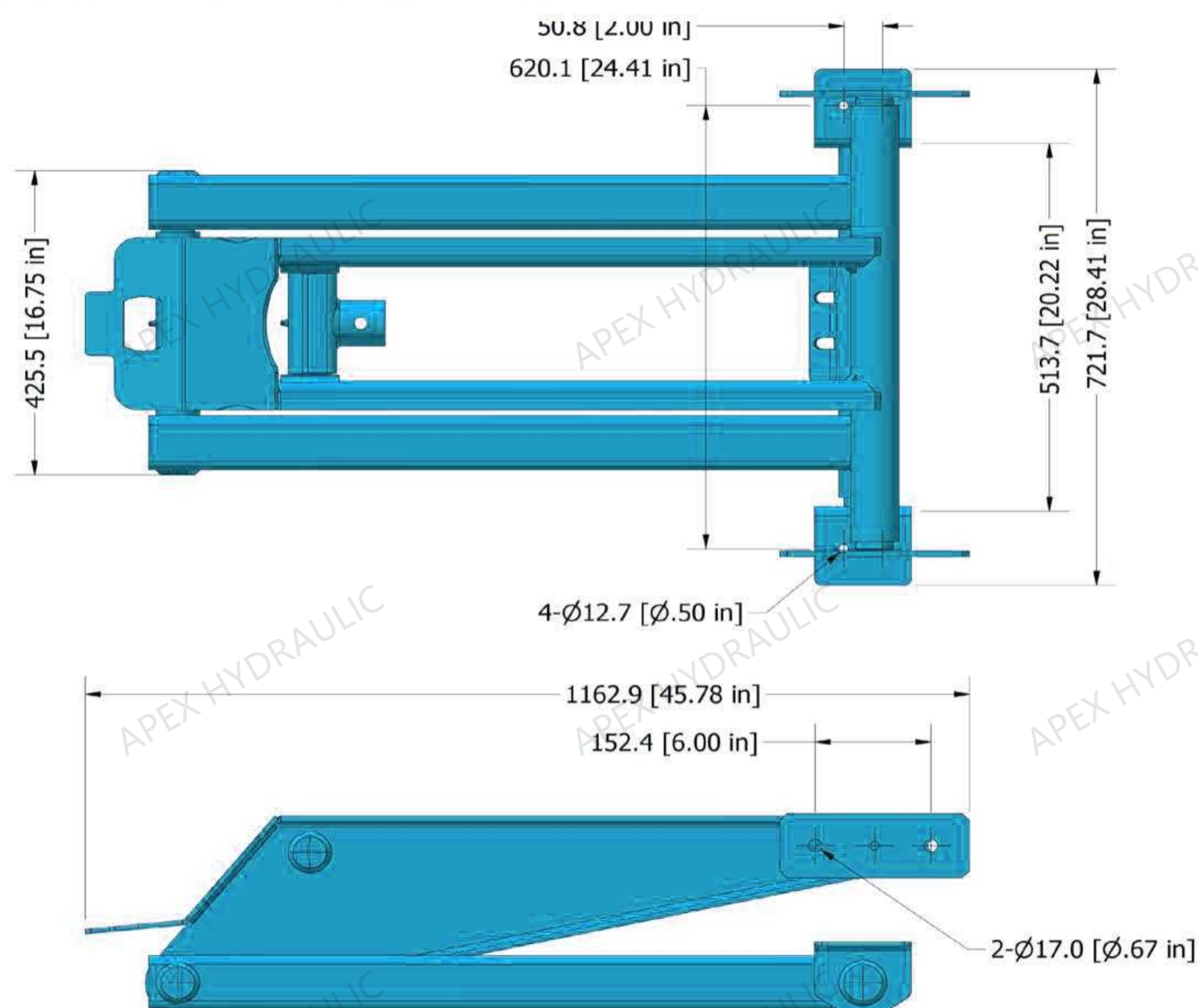
HSH - SCISSOR HOIST

EXTREMELY RELIABLE AND DURABLE SCISSOR HOISTS

AVANTAGE:

- ▶ Mounting brackets included in hoist assembly;
- ▶ Easy installation (bolt supports and plates to chassis and tilt frame);
- ▶ by selecting different stroke cylinder or (and) mounting position to have different damp angle;

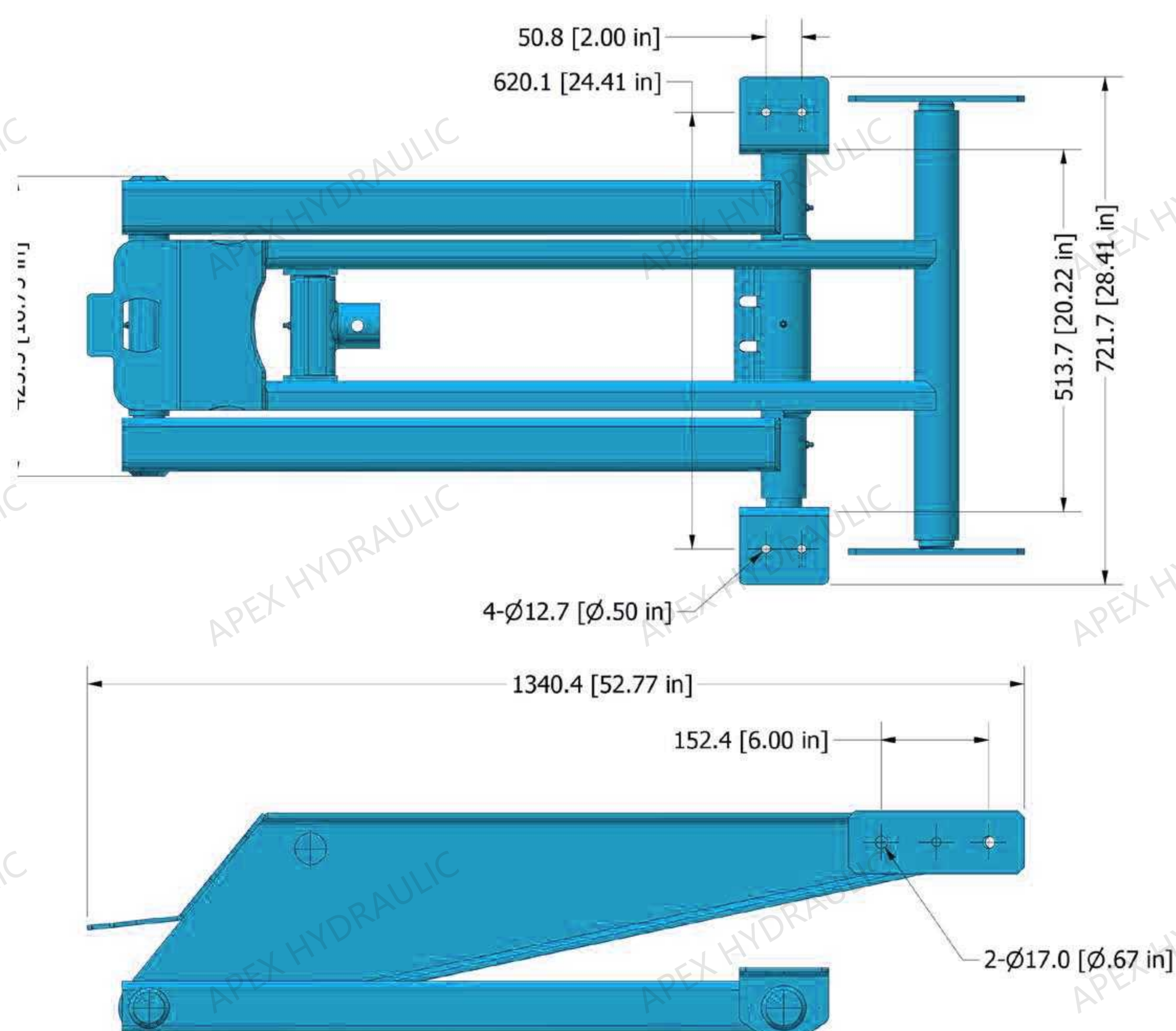
HSH516 HOIST DIMENSIONS



CAPACITY : 5 TONS



HSH520 HOIST DIMENSIONS



CAPACITY : 7 TONS

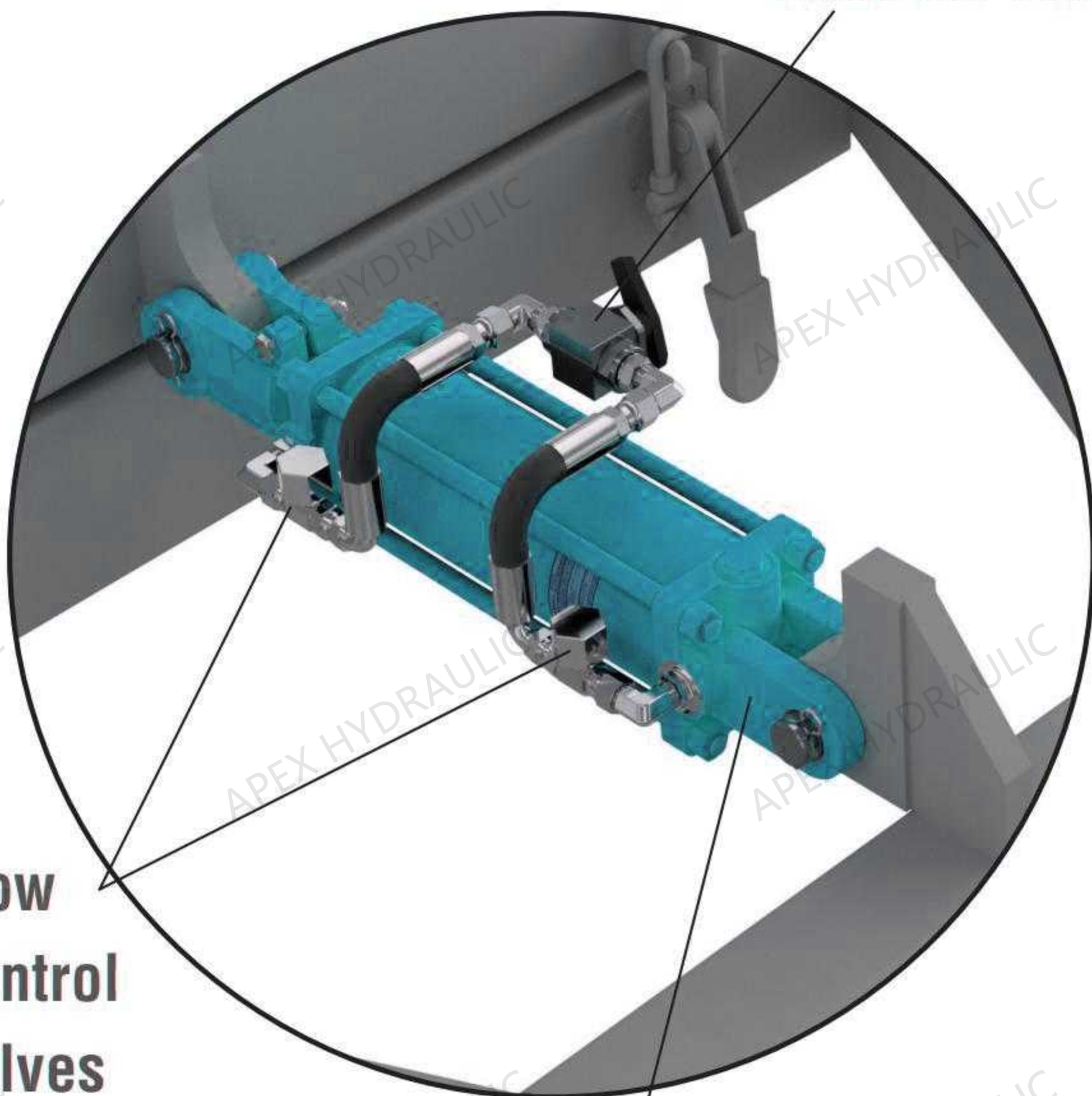
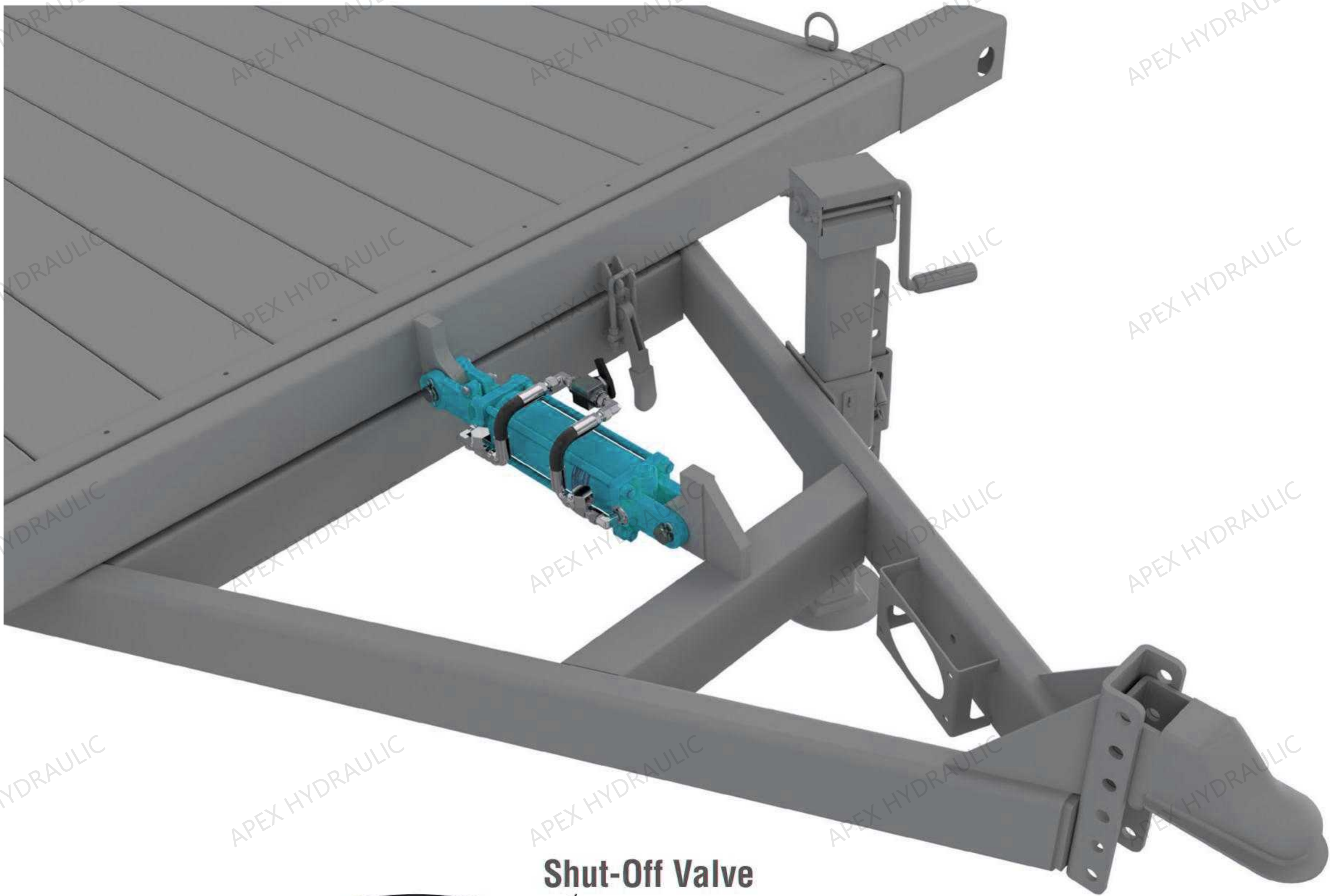


Notes : The variations in application, the capacities are based on the mounting position and the loading distribution on the chassis; the capacity is provided as a general guide.

All numbers given are nominal values and should be used for reference only.

HSH - SCISSOR HOIST

TTP - TILT TRAILER PACKAGE



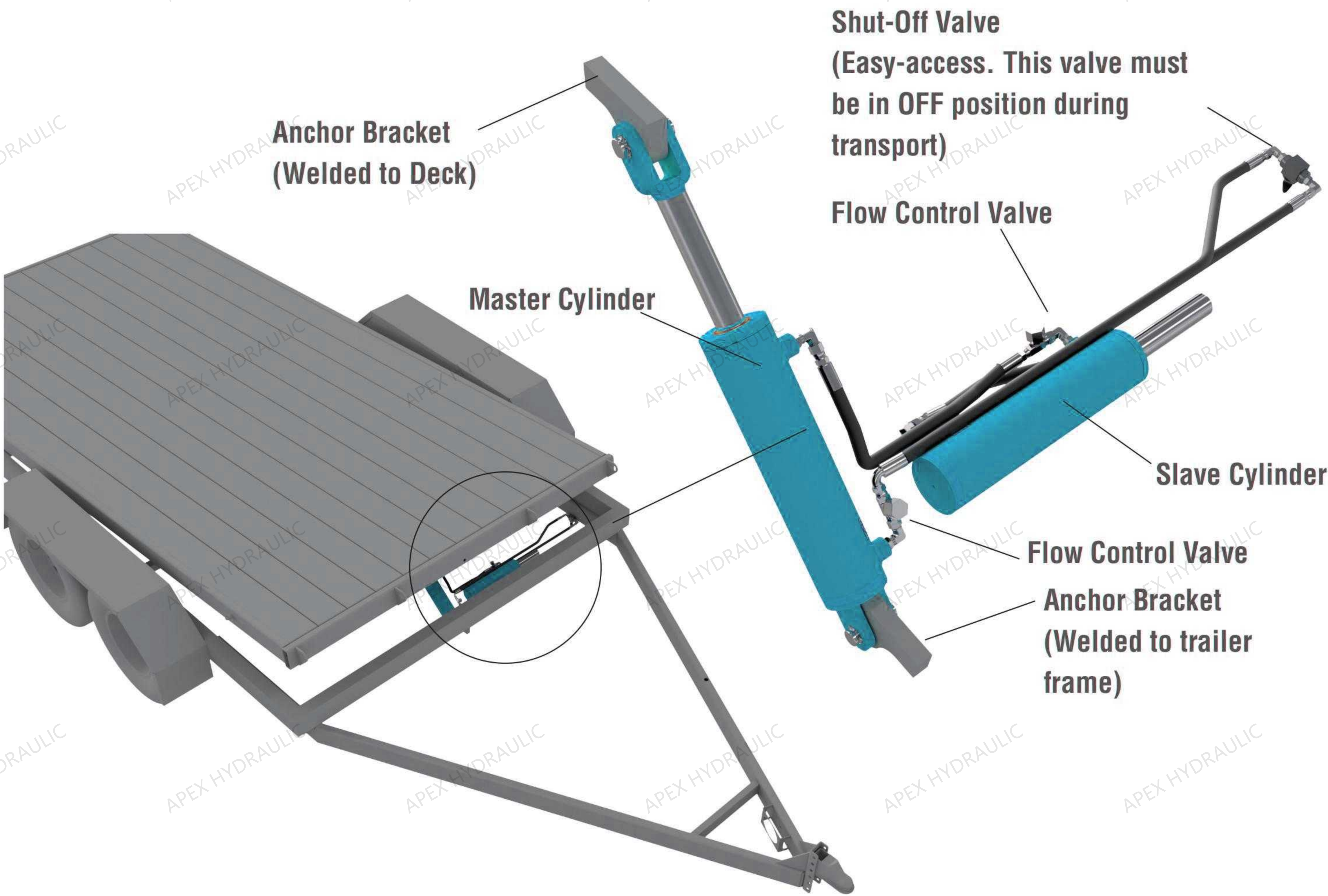
Shut-Off Valve

**Flow
Control
Valves**

Hydraulic Cylinder
(It can be any of our standard hydraulic cylinders models)

TTP
3000 PSI

TILT DECK TRAILER OPTION



*** WE OFFER TTP OPTIONS FOR ALL OUR PRODUCT LINE IN PARTNERSHIP WITH CUSTOMER.**

TTP - TILT TRAILER PACKAGE

CUSTOM ENGINEERED HYDRAULIC CYLINDERS

OEM APPLICATIONS

Contact us for all your special cylinder requirements:

- Bore size between 1" to 10"
- Stroke lengths 1" to 150"

INDUSTRY BEST STANDARDS

- IATF16949 certified
- Digital pulse arc automated welding
- CNC machining
- Sourced in North America seals
- High quality chrome / nitride
- Powder coated paint
- Cylinders are 100% pressure tested

NITRIDED HYDRAULIC CYLINDER RODS



Liquid Nitriding is a surface treatment process that produces a very hard black finish that provides improved surface properties (e.g. resistance to wear, friction, corrosion, cost-effective, and environmentally friendly). The process begins with the cleaning and super-polishing of the material to a surface roughness of 16 Ra or better. The steel bars or components are then fixed vertically, and submerged into an electrically controlled liquid tank. Nitrogen is diffused into the surface of the components. The steel surface is then transformed into iron-nitride in a depth of 0.001 inch which improves material properties.



FORGED HYDRAULIC CYLINDER COMPONENTS

Forgings are superior over castings and fabrications as the structural integrity can withstand the higher forces that exist in a rigorous or high duty cycle application.

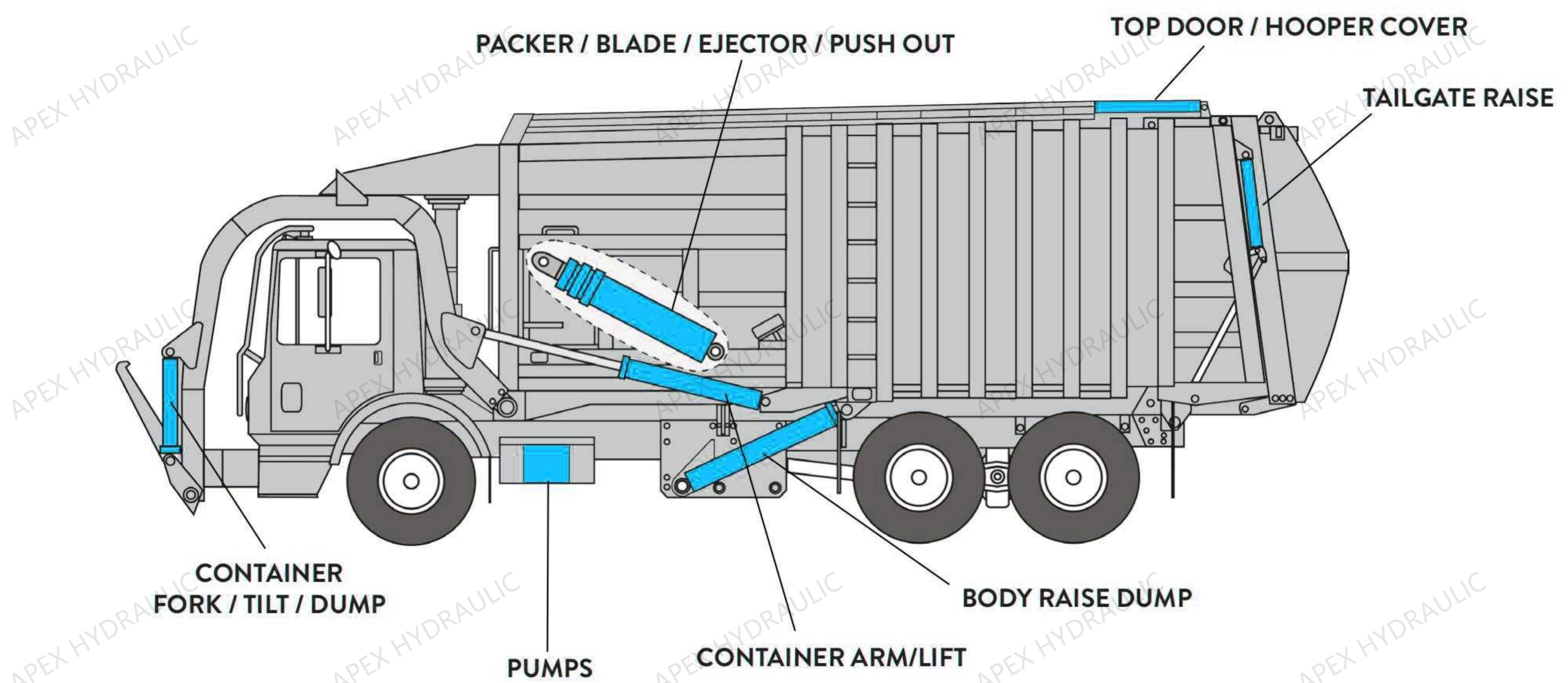
TOP QUALITY SEALS SOURCED IN NORTH AMERICA



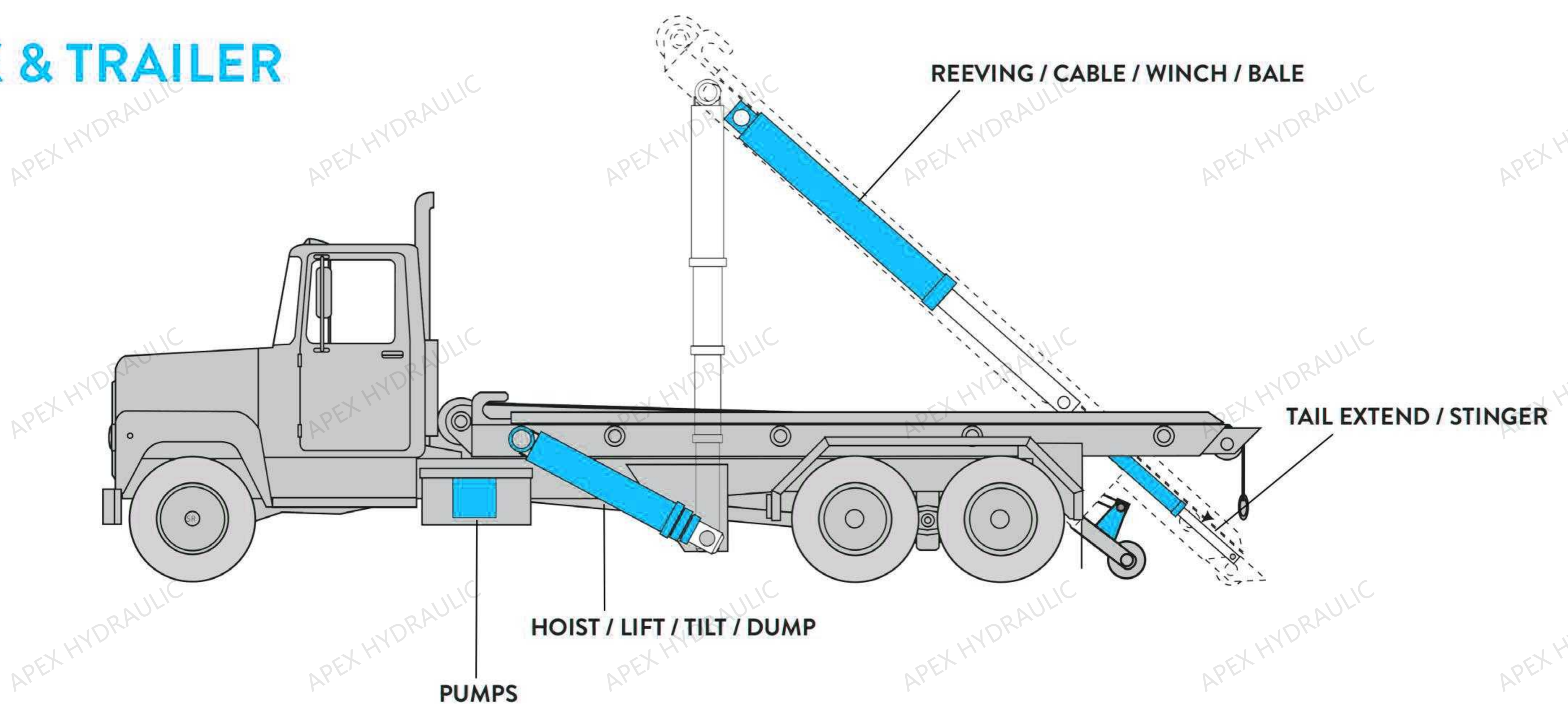


APPLICATIONS

WASTE & REFUSE



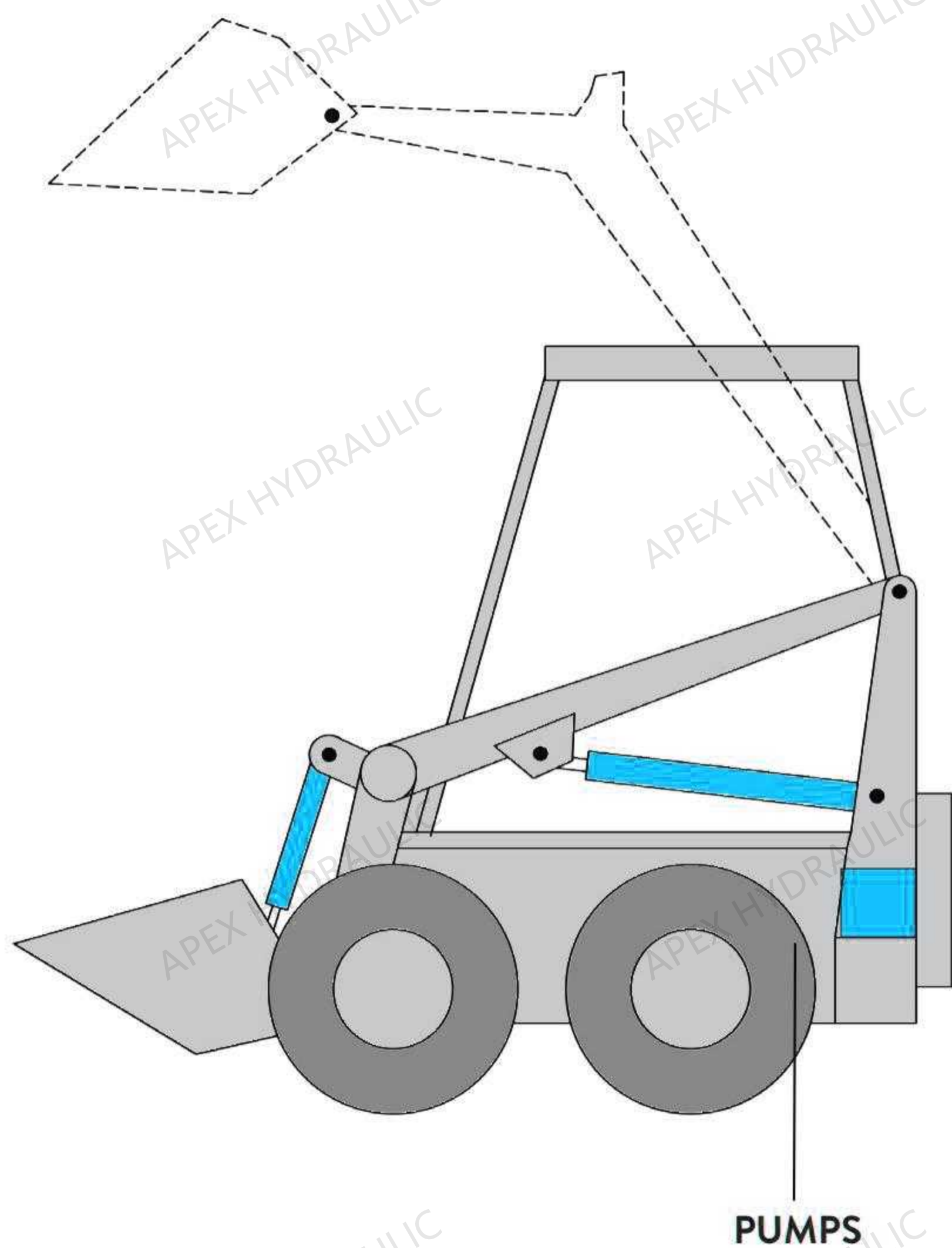
TRUCK & TRAILER



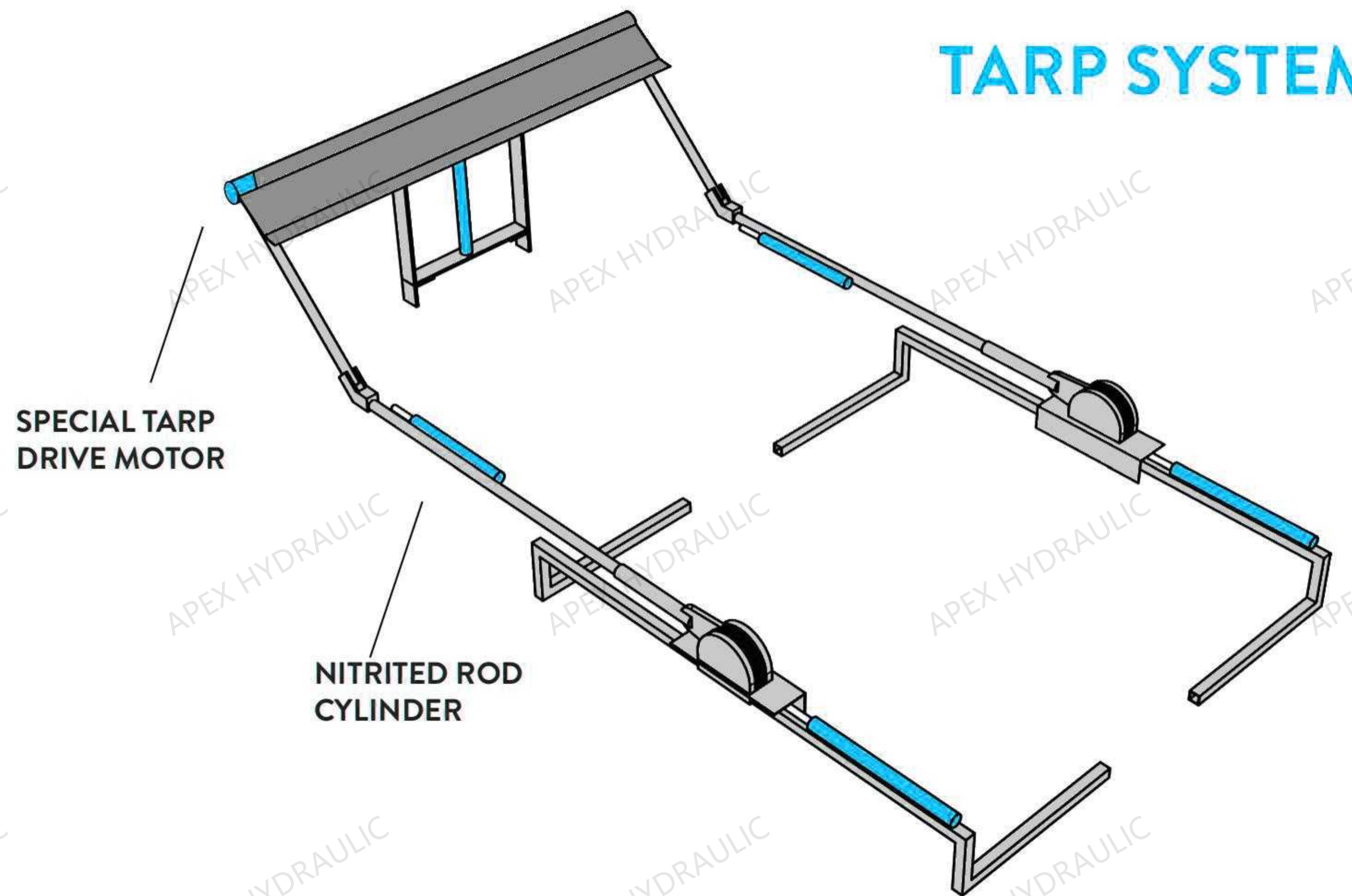


APEX HYDRAULIC
Apex Hydraulic Co.,Ltd

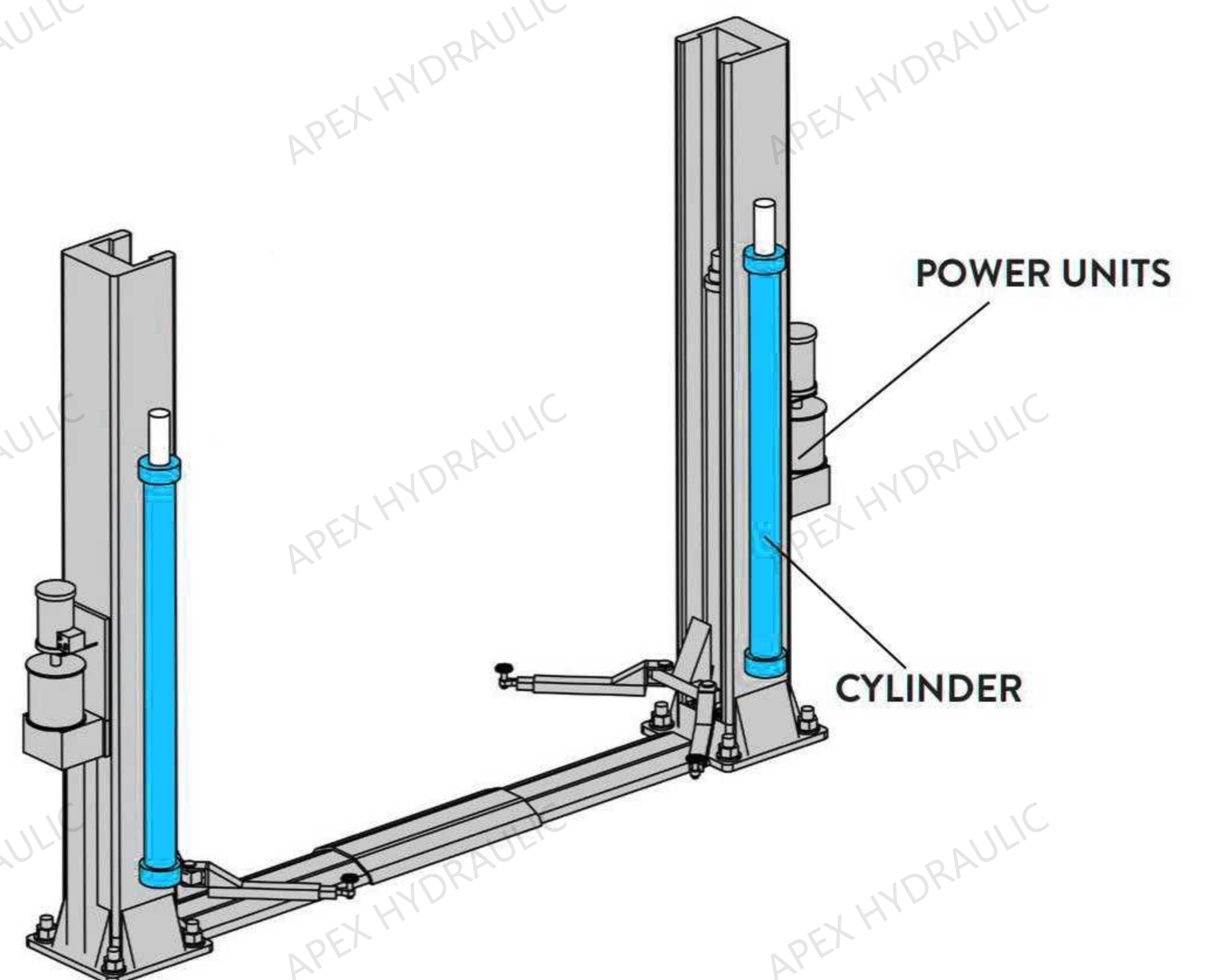
SKID STEER LOADER



TARP SYSTEM



AUTO LIFT



OTHER APPLICATIONS

**FORESTRY - AGRICULTURE - AERIAL TRUCK - SNOW EQUIPMENT
MATERIAL HANDLING - CONSTRUCTION**

ADDITIONAL INFORMATION

CYLINDERS MAINTENANCE

- ▶ Installation and maintenance should be performed by qualified personnel.
- ▶ Ensure that the bearing surfaces are properly lubricated (e.g. joint bearing, swivel bearing) before being operated.
- ▶ Check leak-tightness and functional safety at frequent intervals.
- ▶ Maximum permissible level of contamination by particles in accordance with ISO 4406.

CYLINDERS STORAGE

- ▶ Always store indoors fully retracted in a clean dry area.
- ▶ Chromeplated rod protruding from the cylinder must be protected against potential corrosive damage. Treat the entire surface with a rust inhibitor such as grease.
- ▶ Smear the internal surfaces of eye/clevis bushes or bearings with grease to avoid corrosion.
- ▶ We recommend that single-acting cylinders be protected against corrosion by directly adding a rust inhibitor oil to the unpressurized chamber.
- ▶ Hydraulic cylinders may be stored full of oil however a relief valve shall be installed on the cylinder port to allow for fluid expansion caused by variations in ambient temperature.
- ▶ Under these conditions, cylinders can be stored up to 12 months provided that they have not yet been extended and retracted.
- ▶ After 12 months, cylinders must be inspected and commercially available preservative agents reapplied.

CHROME ROD PROTECTION EXPLAINED

Chrome-plated rod and bar products normally contain from 0.0005" maximum to 0.001" minimum hard chrome plate depending upon product specifications. This hard chrome coating is applied primarily for wear resistance though it does provide considerable corrosion resistance as well. Hard chrome plate deposits with a "micro-cracked" structure. Although hard chrome plate cannot corrode, the metal substrate it adheres to can if moisture and oxygen penetrate the chrome layer. The result is a blistering and flaking of the chrome plate deposit from the metal substrate. Once the rod is assembled into a cylinder and put into service, the fluid film on the surface of the rod provides additional corrosion resistance which is normally sufficient to protect it during its entire life. However, there are occasions when the rod is not being cycled and the surface is exposed to the elements which will allow corrosion to take place. For example, brand new equipment may be stored outside for a considerable period of time at a manufacturer's plant, or an equipment dealer may hold inventory on its lot. In these instances, it is best to provide some additional corrosion protection. An inexpensive application of a rust inhibitor can be applied to prevent corrosion and thereby preserve the quality of the hard chrome coating and the life of the cylinder.

PROTECTION OF NEW EQUIPMENT

The steps summarized below should be followed when protecting chrome plated rods on new equipment:

1. Position the equipment as it will be stored, and identify all the exposed portions of the chrome plated rods.
2. Clean dirt and dust from the exposed portions of the rods using a dry cloth or a cloth which has been dampened with an appropriate solvent.
3. Prepare a mixture of 60% oil-based rust inhibitor and 40% Kerosene. Apply a thin coating of this mixture to the exposed surfaces of the chrome plated shafting. No.1 fuel oil may be substituted for Kerosene. A cloth dipped in the mixture can be used to apply the coating.
4. Inspect the shaft surfaces after six months and apply additional corrosion inhibitor mixture.
5. If the equipment is to be moved and then stored again for an extended period of time, the steps above should be repeated for all rods that were stroked during the move.

PROTECTION OF OLDER EQUIPMENT

Occasionally it may be necessary to store equipment that has seen some service. The procedure described above can be used for older equipment, but more careful cleaning of the chrome surfaces would be necessary. Also, there may be damage on some of the chrome surfaces which will require additional protection. Under no circumstances should sandpaper or other abrasives be used to clean the surfaces. Plastic or copper wool in combination with an appropriate solvent will remove most of the dirt. After the surface is clean, it should be inspected for damage to the chrome plate. If damage is detected, more frequent application of the corrosion preventative will be necessary to prevent corrosion during storage.



COMPONENTS

	<h2>ATMOSPHERIC BREATHER FOR SINGLE ACTING CYLINDER</h2> <ul style="list-style-type: none">▶ 318070 - 1/8" NPT.▶ 318060 - 3/8" NPT.▶ 318050 - 1/2" NPT.▶ 318080 - 7/16-20 (SAE #4).▶ 318090 - 9/16-18 (SAE #6).▶ 318100 - 3/4-16 (SAE #8).
	<h2>VELOCITY FUSE INSERT FOR 9/16-18 (SAE #6)</h2> <ul style="list-style-type: none">▶ 100040 - 3 GPM.▶ 100048 - 5GPM▶ 100050 - 7 GPM.▶ 100070 - Adjustable.
	<h2>FLOW LIMITER INLINE</h2> <ul style="list-style-type: none">▶ 100041 - 3 GPM (SAE #6 JIC -6).▶ 100045 - 3 GPM (SAE #8 JIC -8).
	<h2>VELOCITY FUSE INLINE</h2> <ul style="list-style-type: none">▶ 100046 - 3 GPM (SAE #6 JIC -6).▶ 100049 - 5 GPM (SAE #6 JIC -6).



APEX HYDRAULIC
Apex Hydraulic Co.,Ltd

HYDRAULIC

PRODUCT SAFETY

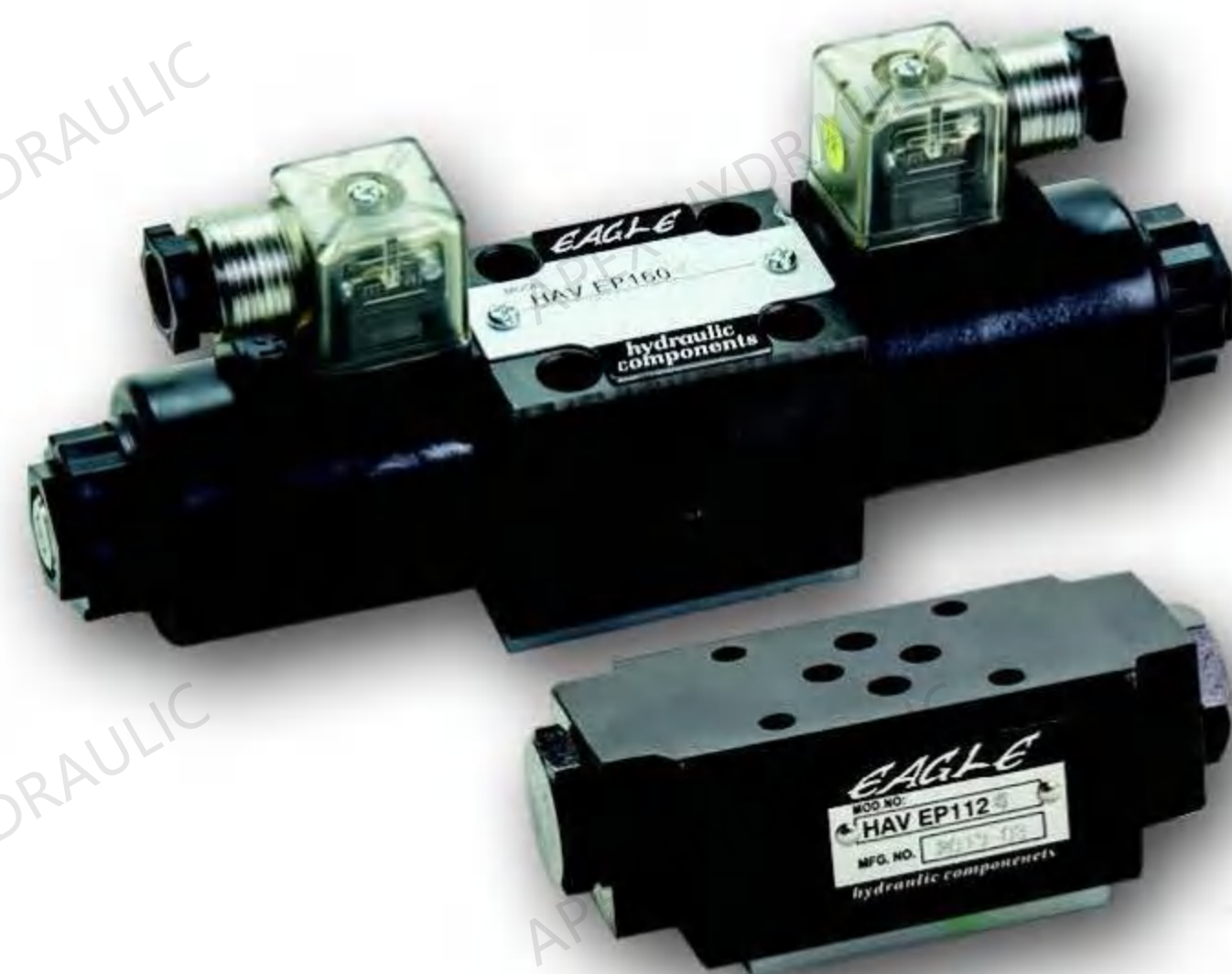
POWER UNITS



CYLINDERS



ACCESSORIES



WARNING

Hydraulic system parts and connections can contain high pressures which, if suddenly and unexpectedly released, can cause serious injury or death.



WARNING (AVISO) (AVERTISSEMENT)

TO PREVENT SERIOUS INJURY OR DEATH FROM MOVING PARTS:
★ KEEP HANDS, FEET AND CLOTHING AWAY FROM MOVING PARTS.
★ CLOSE ALL GUARDS AND SHIELDS BEFORE OPERATING MACHINERY.
PARA EVITAR LA LESION O LA MUERTE:
★ MANTENGANSE A DISTANCIA LAS MANOS, LOS PIES Y LA ROPA DE LAS PARTES MOVIENTES DE LA MAQUINA.
★ CIERRAN TODAS LAS PROTECTORAS QUE HAY ANTES QUE HEGAN FUNCIONAR.
AFIN D'ÉVITER TOUTE BLESSURE GRAVE OU LA MORT:
★ NE PAS RAPPROCHER LES MAINS, LES PIEDS OU LES VÊTEMENTS DES PIÈCES MOBILES.
★ S'ASSURE QUE TOUTES LES PIÈCES DE PROTECTION SONT EN PLACE AVANT DE METTRE EN MARCHÉ LA MACHINERIE.



WARNING

HIGH PRESSURE OIL can cause severe injury.

Disconnect power and drain accumulator before servicing hydraulic system.

- ▶ Always wear eye protection and protective clothing when working on and around hydraulic systems.
- ▶ Never exhaust hydraulic fluid under pressure to atmosphere.
- ▶ Hydraulic fluid can reach high temperatures under normal operating conditions and can burn exposed skin.
- ▶ Fluid pressure can penetrate skin and cause death or serious injury, Wear proper protective clothing when working on hydraulics.
- ▶ Hydraulic devices should be properly "Locked-Out" or "Tagged-Out" before being worked on, including the release of any stored energy or pressure. Ensure a mechanical locking device is in place to prevent injury or death.
- ▶ APEX Hydraulic Components is not responsible for misuse or misapplication of product.
- ▶ Do not use any heat-producing equipment such as oxyacetylene/gas torches and angle grinders on sealed hydraulic cylinders.
- ▶ Remove hydraulic oil from the cylinder before heating the cylinder.
- ▶ Never operate a cylinder(or power unit) above recommended pressures.
- ▶ Always use properly rated hoses and fittings.
- ▶ Do not weld, add welded items, drill holes or otherwise modify the cylinder from its original design.
- ▶ The hydraulic power unit may heat up during operation. The solenoids in the hydraulic power unit become so hot during operation that you may sustain burns. You should wear heat-proof gloves or protective clothing.