

**AGNI HYDROPNEUMATIC PRIVATE LTD**

# Hydraulic Cylinder Catalogue

January 2025 Rev-01

# AGNI

## Hydraulics & Pneumatics

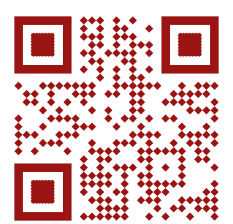
### Welcome

Welcome to Agni Hydraulics Cylinders Catalogue, your source for high-performance hydraulic and pneumatic cylinders. We offer a comprehensive and cost competitive range of cylinders designed to meet the demands of diverse industries and applications.

## Heavy Duty Hydraulic Cylinders Series – Tie Rod Cylinders (HTC)

### Contact Us

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## Get to Know Our Company

AGNI HYDROPNEUMATIC PRIVATE LIMITED newly established in 2024 as a small-scale firm, began its journey to introduce world-class Hydraulic and Pneumatic Cylinders of the latest design to the Indian market at affordable prices. Over the years, we will expand our product range to include Pneumatic Power Clamp Cylinders and Other Hydro-Pneumatic products like Valves, Connectors, Fittings and specialized products for OEM applications.

### Our Mission

We aim to expand our range of products, technology, and customer base in the coming years to gain the same recognition in the international market and become a global company.

### Our Vision

We are committed to enhancing industrial efficiency and performance by offering innovative, high-standard hydraulic and pneumatic solutions that meet the diverse needs of our clients nationwide

## Our Values

### Customer-Centric

It is our core value that the Customer satisfaction comes before everything.

### Innovative

We always strive to deliver new and better solutions to the ever changing business world.

### Integrity

We are building trust with honesty and transparency is as the root of our value system

### Involved

We value and are actively engaged with our customers, partners, employee or employees and the community.

## **Disclaimer**

Please Read The Following Warning Carefully

**Please be aware that using the products described here incorrectly or for unsuitable applications could lead to serious consequences, including death, injury, and property damage.**

This document provides information for qualified users to explore product and system options. We encourage you to carefully analyze your specific application, including potential failure risks, and consult the current product catalog for detailed information.

**Agni Hydropneumatics** reserves the right to make changes to product features, specifications, designs, availability, and pricing without prior notice.

Ultimately, you are responsible for selecting the products and systems that best meet your needs and ensuring they comply with all performance, safety, and warning requirements. We appreciate your understanding and commitment to safety.

## Material Information

### Hard Chrome Plated Piston Rods

- Material : EN8D/CK-45
- Chrome Thickness: 20-25 Micron Minimum per side above as per requirement.
- Tolerance: ISO f7/f8
- Plating Hardness: 850HV-1100HV
- Surface Roughness: Ra 0.2micon or better
- Straightness: 0.1mm per meter
- UTS: 600-700 N/mm2 (min.)
- Y.S : 450 N/mm2 (min)

### Hard Chrome Plated Piston Rods

- Material : ST52 in BK+S Condition and as per Customer
- Tolerance: As per ISO H8/H9
- Surface Roughness: Ra0.3micron Maximum
- T.S. :>580 N/mm2
- Y.S.: > 520N/mm2
- Elongation: >16%
- Straightness: 0.1mm per meter
- Packing Condition: Bore covered by cap and plastic and Transportation purpose M.S.plate welded in bore both sides

### Seal Matrials

Sr. No	Polytetrafluoroethylene	Polyurethane	Nitrile Butadiene Rubber
1	operating temp range: -200°C to 260°C	operating temp range : -40°C to 120°C	Operating temp range : -30°C and 100°C
2	PTFE's durability and chemical stability contribute to a longer lifespan compared to other sealing materials, especially in aggressive environments.	PU's elastic properties provide excellent shock absorption, beneficial in systems with frequent load and pressure changes.	NBR performs excellently with petroleum-based fluids and mineral oils, making it ideal for use in industrial hydraulic systems.
3	PTFE is inert to most chemicals, ensuring that the seals remain stable in a variety of hydraulic fluids, including aggressive and high-viscosity oils	PU seals can absorb impact loads and resist deformation, maintaining their shape and seal integrity under high pressure.	NBR has excellent resistance to petroleum-based oils, hydraulic fluids, and fuels, making it ideal for hydraulic applications.
4	PTFE's low friction coefficient results in smoother operations and reduced wear, especially important in systems with frequent or high-speed movements.	PU's flexibility allows a close fit, minimizing leakage and making PU seals suitable for high-precision applications.	NBR has a low compression set, meaning it retains its shape well after being compressed, maintaining the integrity of the seal.
5	PTFE has a tendency to deform under prolonged high pressure, known as "cold flow" or "creep," especially in unreinforced forms.	Standard PU is sensitive to water and may degrade in hydrolytic environments, so hydrolysis-resistant PU is necessary for water or glycol-based fluids.	NBR does not perform well with certain chemicals, such as strong acids, esters, ketones, and hydraulic fluids containing phosphate esters, as it can cause swelling and degradation.

## Hydraulic Tie Rod Cylinder (HTC)

Tie rod hydraulic cylinders are another common type of hydraulic actuator, distinct from welded hydraulic cylinders. They are designed to create linear force and motion, and their construction involves several key features.

Tie rod hydraulic cylinders are widely used across various industries and applications, including:

- ❖ **Industrial Machinery:** Commonly found in machines that require linear motion, such as presses and lifts.
- ❖ **Construction Equipment:** Used in equipment like forklifts and backhoes, where they provide the necessary force for lifting and moving materials.
- ❖ **Agricultural Equipment:** Employed in tractors and other farming machinery to assist in tasks like plowing and lifting.
- ❖ **Material Handling:** Integral to systems that require the movement of goods, such as conveyor systems.
- ❖ **Automotive Applications:** Used in various automotive systems, including hydraulic brakes and steering mechanisms.

## How To Order

Bore Size Ø	Mounting Styles	Series	Seal Material	Piston Rod Thread Style	Stroke
Specify the Bore dia (mm) 40 . . . 250	AF - Axial Foot Mounting  HF - (Rectangular) Head Flange Mounting  CF - (Rectangular) Cap Flange Mounting	HTC	1 - (PTFE) Polytetrafluoroethylene  2 - (PU) Polyurethane  3 - (NBR) Nitrile Butadiene Rubber	M - Male F - Female	Specify a lentgh from the range 50 mm to 1000 mm

Table HTC(A) - Order Format For HTC Series

EXAMPLE -

40	HF	HTC	NBR	F	40
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So, the order code would be - 40-HF-HTC-NBR-40

SR	Bore Ø MM		WT	MM Rod Ø	Operating Pressure Kgf/cm2		Operating Speed MM/sec		Max. Cylinder Tonnage	Ambt. Temp Range 0C	Piston Rod Threads				W	Port Size EE	Working Length
	ID	OD			Max.	Min.	Max.	Min.			Male		Female				
											KK	A	KK	A			
1	40	50	5	28	260.0	10	300	15	13.06	-10 ~ +80	M18x2.5	18	M10x1.5	20	10	3/8	20 to 500
2	50	60	5	35	216.7	10	300	15	17.01	-10 ~ +80	M18x2.5	18	M14x2	20	13	3/8	20 to 500
3	50	65	7.5	38	300.0	10	300	15	23.55	-10 ~ +80	M22x2.5	20	M14x2	20	13	3/8	20 to 500
4	55	65	5	38	200.0	10	300	15	19.00	-10 ~ +80	M22x2.5	20	M14x2	20	13	3/8	20 to 500
5	63	73	5	40	178.1	10	300	15	22.19	-10 ~ +80	M22x2.5	20	M14x2	20	14	1/2	20 to 500
6	63	75	6	45	208.0	10	300	15	25.92	-10 ~ +80	M22x2.5	30	M18x2.50	30	14	1/2	20 to 500
7	80	90	5	56	144.4	10	300	15	29.03	-10 ~ +80	M42x4.5	40	M18x2.50	40	17	1/2	20 to 500
8	80	100	10	60	260.0	10	300	15	52.25	-10 ~ +80	M42x4.5	40	M22x2.50	50	17	1/2	20 to 500
9	90	105	7.5	63	185.7	10	300	15	47.23	-10 ~ +80	M48x5	50	M22x2.50	50	18	3/4	20 to 500
10	100	112	6	60	139.3	10	300	15	43.74	-10 ~ +80	M48x5	50	M22x2.50	50	20	3/4	20 to 500
11	100	125	12.5	70	260.0	10	300	15	81.64	-10 ~ +80	M48x5	50	M22x2.50	50	20	3/4	21 to 500
12	110	125	7.5	75	156.0	10	300	15	59.27	-10 ~ +80	M48x5	50	M22x2.50	50	22	3/4	22 to 500
13	110	130	10	75	200.0	10	300	15	75.99	-10 ~ +80	M48x5	50	M22x2.50	50	22	3/4	23 to 500
14	125	140	7.5	80	139.3	10	300	15	68.34	-10 ~ +80	M48x5	50	M22x2.50	50	26	1.00	24 to 500
15	125	150	12.5	90	216.7	10	300	15	106.30	-10 ~ +80	M56x5.5	60	M33x3.5	50	26	1.00	25 to 500
16	140	160	10	95	162.5	10	300	15	100.01	-10 ~ +80	M56x5.5	60	M33x3.5	50	28	1-1/4	20 to 500
17	140	170	15	95	229.4	10	300	15	141.19	-10 ~ +80	M56x5.5	60	M33x3.5	50	28	1-1/4	20 to 1000
18	150	170	10	95	152.9	10	300	15	108.05	-10 ~ +80	M56x5.5	60	M33x3.5	50	32	1-1/4	20 to 1000
19	150	180	15	95	216.7	10	300	15	153.08	-10 ~ +80	M56x5.5	60	M33x3.5	50	32	1-1/4	20 to 1000
20	160	180	10	95	144.4	10	300	15	116.11	-10 ~ +80	M56x5.5	60	M33x3.5	50	32	1-1/2	20 to 1000
21	160	190	15	95	205.3	10	300	15	165.00	-10 ~ +80	M56x5.5	60	M33x3.5	50	32	1-1/2	20 to 1000
22	180	200	10	100	130.0	10	300	15	132.26	-10 ~ +80	M56x5.5	60	M33x3.5	50	34	1-1/2	20 to 1000
23	180	210	15	100	185.7	10	300	15	188.94	-10 ~ +80	M64x6	60	M42x4.5	50	34	1-1/2	20 to 1000
24	180	220	20	100	236.4	10	300	15	240.47	-10 ~ +80	M64x6	60	M42x4.5	50	34	1-1/2	20 to 1000
25	200	220	10	110	118.2	10	300	15	148.44	-10 ~ +80	M64x6	60	M42x4.5	50	36	1-1/2	20 to 1000
26	200	245	22.5	110	238.8	10	300	15	299.90	-10 ~ +80	M64x6	60	M42x4.5	50	36	1-1/2	20 to 1000
27	220	250	15	120	156.0	10	300	15	237.08	-10 ~ +80	M64x6	60	M42x4.5	50	38	1-3/4	20 to 1000
28	220	266	23	120	224.8	10	300	15	341.66	-10 ~ +80	M64x6	60	M42x4.5	50	38	1-3/4	20 to 1000
29	250	280	15	125	139.3	10	300	15	273.35	-10 ~ +80	M64x6	60	M42x4.5	50	38	1-3/4	20 to 1000
30	250	300	25	125	216.7	10	300	15	425.21	-10 ~ +80	M64x6	60	M42x4.5	50	38	1-3/4	20 to 1000

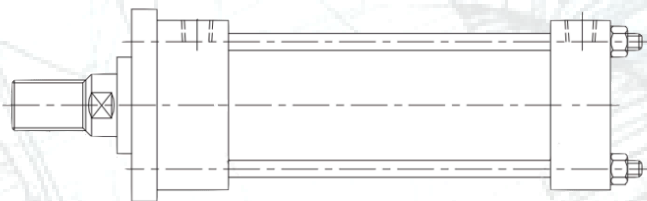
Table HTC(B) - Order Details For HTC Series (Please [Contact Us](#) for custom sizes)

## HTC MOUNTING-STYLES

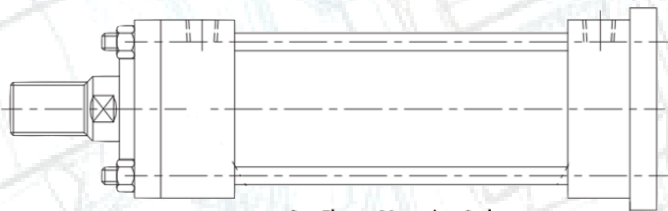
We offer three mounting styles for our HTC Series. You can select any one of the mentioned styles as per your need. The figure below demonstrates the working of the different mounting styles



Axial Foot Mounting Style



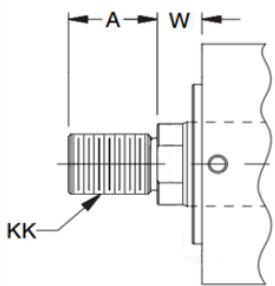
Head Flange Mounting Style



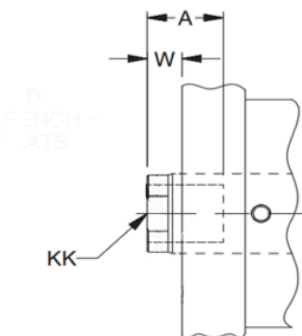
Cap Flange Mounting Style

## Thread Styles

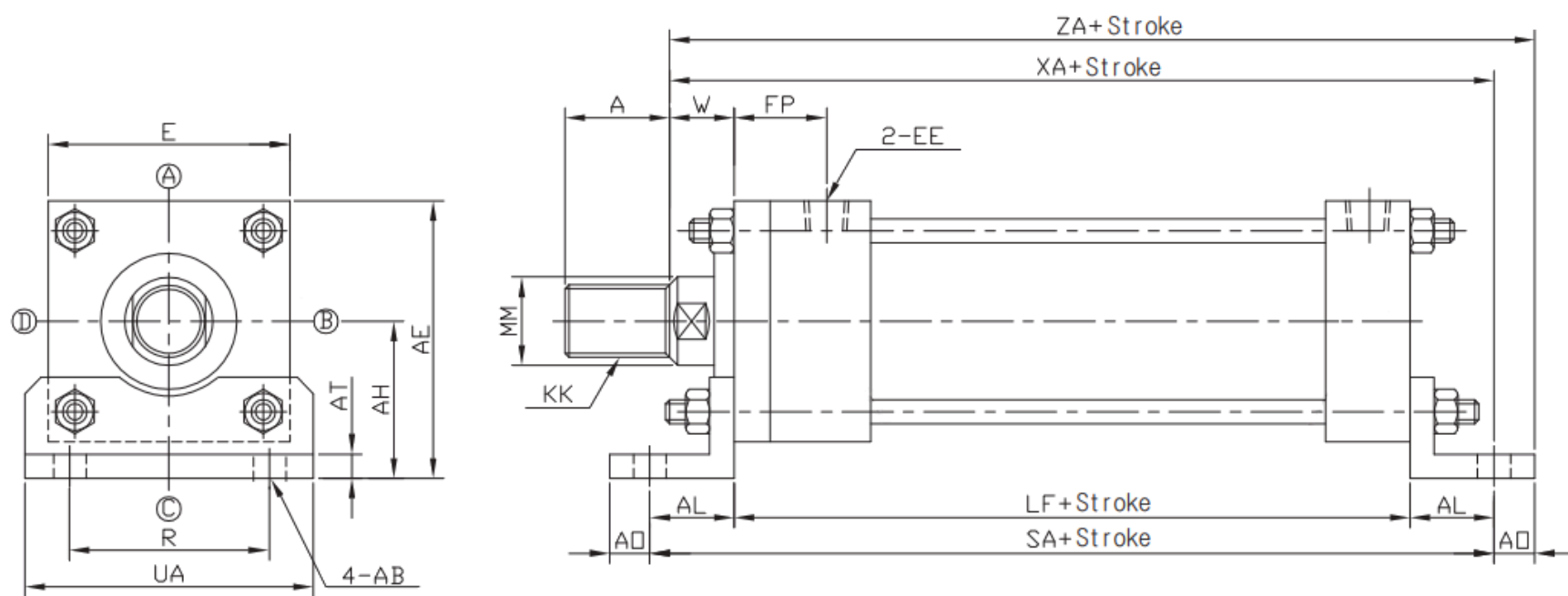
Male Thread Style



Female Thread Style



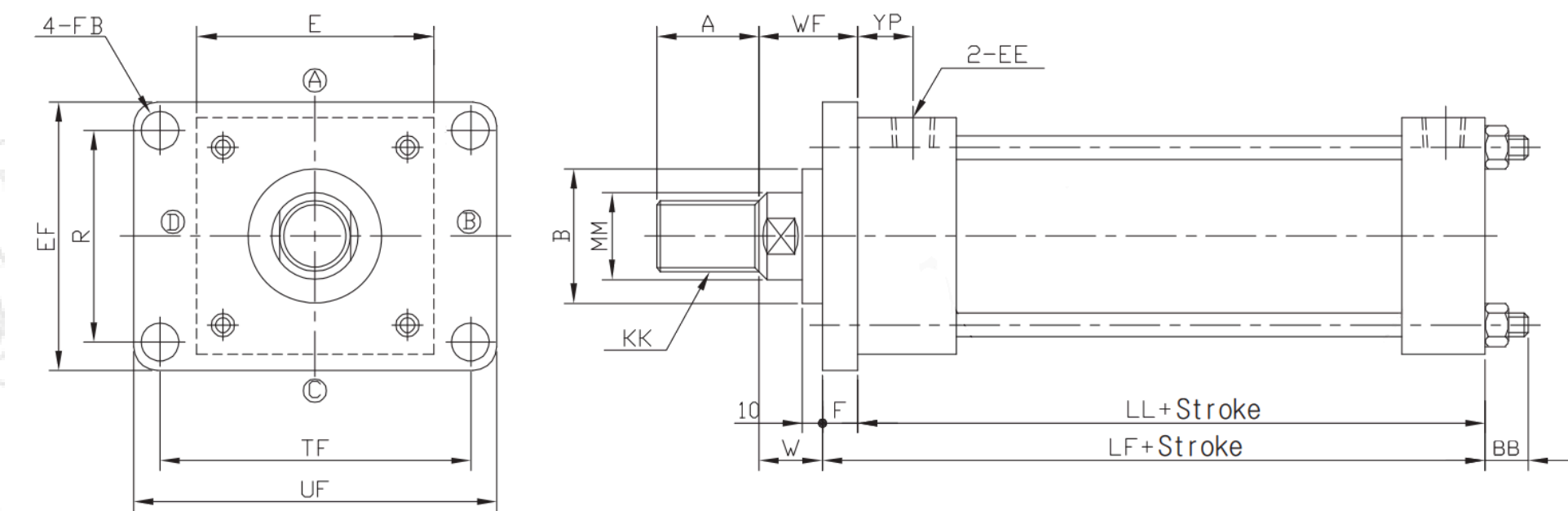
Axial Foot Mounting Style



Bore Size Ø	AB	AE	AH	AL	AT	E	FP	LF	R	SA	XA	ZA
40	11	75.5	32	13	8	65	38	141	46	205	203	216
50	14	87.5	35	15	8	75	42	155	58	225	220	235
63	18	105	42	18	10	90	46	163	65	247	240	258
80	18	127	50	20	12	110	56	184	87	284	269	289
100	22	152.5	55	23	12	135	58	192	109	302	287	310
125	26	187.5	66	29	15	165	67	220	130	352	331	360
140	26	207.5	70	30	18	185	69	230	145	370	350	380
150	30	221	75	30	18	198	71	240	155	390	365	395
160	33	237	75	35	18	210	74	253	170	403	383	418
180	33	265.5	85	40	20	235	75	275	185	445	415	455
200	36	296	98	40	25	265	85	301	206	497	454	495
250	45	370.5	130	50	35	325	106	346	250	606	541	591

Table HTC(C) - Foot Mount Details For HTC Series

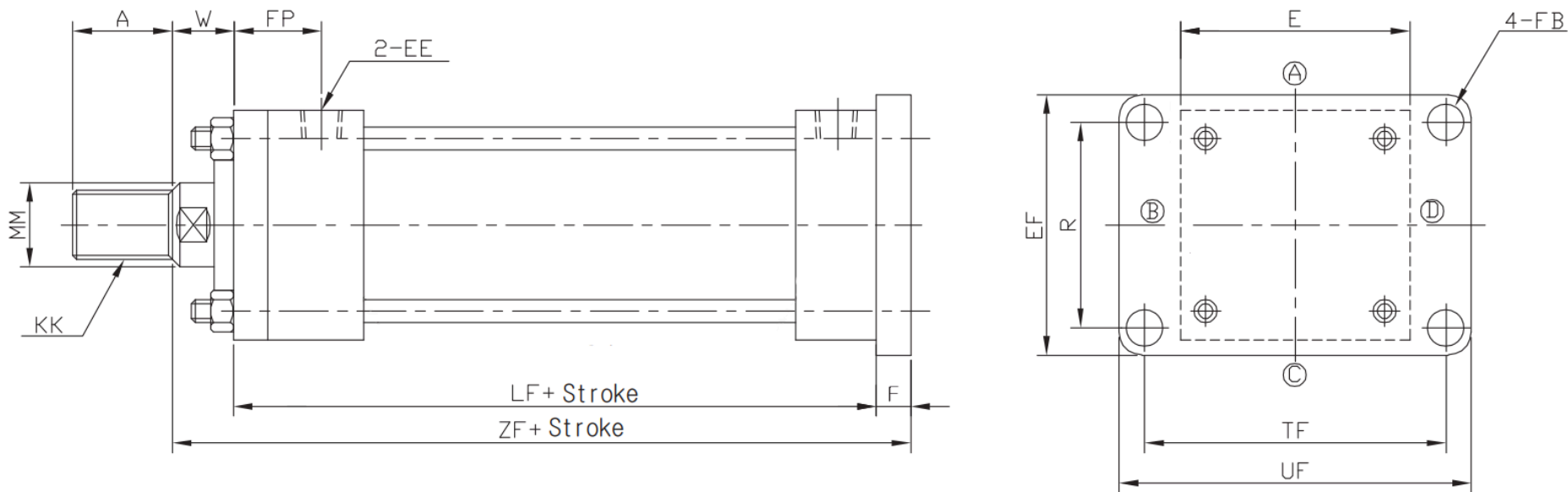
Head Flange Mounting Style



Bore Size Ø	BB	E	EF	F	FB	LF	LL	R	TF	UF	W	WF	YP
40	15	65	69	11	11	141	130	46	95	118	30	41	27
50	15	75	85	13	14	155	142	58	115	145	30	43	29
63	17	90	98	15	18	163	148	65	132	165	36	50	31
80	23	110	118	18	18	184	166	87	155	190	36	53	38
100	26	135	150	20	22	192	172	109	190	230	40	60	38
125	30	165	175	24	26	220	196	130	224	272	45	69	43
140	35	185	195	26	26	230	204	145	250	300	50	76	43
150	35	198	210	28	30	240	212	155	270	320	50	78	43
160	35	210	225	31	33	253	222	170	285	345	55	86	43
180	40	235	243	33	33	275	242	185	315	375	55	88	42
200	40	265	272	37	36	301	264	206	355	425	55	92	48
250	50	325	335	46	45	346	300	250	425	515	65	111	60

Table HTC(D) - Head Flange Mount Details For HTC Series

## Cap Flange Mounting Style



Bore Size Ø	E	EF	F	FB	LF	R	TF	UF	TF	W	ZF
40	69	69	11	11	141	46	95	118	95	30	182
50	85	85	13	14	155	58	115	145	115	30	198
63	98	98	15	18	163	65	132	165	132	36	213
80	118	118	18	18	184	87	155	190	155	36	237
100	150	150	20	22	192	109	190	230	190	40	252
125	175	175	24	26	220	130	224	272	224	45	289
140	195	195	26	26	230	145	250	300	250	50	306
150	210	210	28	30	240	155	270	320	270	50	318
160	225	225	31	33	253	170	285	345	285	55	339
180	243	243	33	33	275	185	315	375	315	55	363
200	272	272	37	36	301	206	355	425	355	55	393
250	335	335	46	45	346	250	425	515	425	65	457

Table HTC(E) - Cap Flange Mount Details For HTC Series

## Custom Style Cylinder

To build Customized Cylinders,

We need a complete drawing of the custom cylinder

OR

The following data:

1. Cylinder Outer Diameter or Required Tonnage.
2. Shaft Diameter and Piston Rod Threads
3. Working Length and Port Size.
4. Max operating Pressure Kgf/cm<sup>2</sup>
5. Cylinder Seal Material.

(For more info or any queries mail us at - [info@agnihp.com](mailto:info@agnihp.com) or [Click Here](#) to visit our website. )

# AGNI

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