

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 – Compact Cylinders (HCC)

Contact Us

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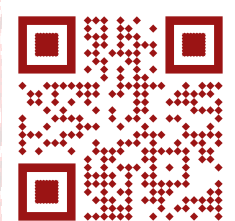


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Get to Know Our Company

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 0.2micron 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 Compact Cylinder (HCC)

The Compact Hydraulic Cylinders are usually small sized but durable hydraulic cylinders that are used to carry out low profile convenient operations. It can be used for various kinds of applications where heavy-duty machines are not required.

They are often used in applications where space is limited, such as in factory automation, molding, machine tools, plastic machinery, and other industrial equipment. They are also used in applications where fast motion is required, such as in bending, clamping, lifting, lowering, feeding, sorting, punching, and shaking.

How To Order

Bore Size \varnothing	Mounting Styles	Series	Seal Material	Piston Rod Thread Style	Stroke
Specify the Bore dia (mm) 25 32 40 50 63 80	TB - Thru Bolt H - Head Pilot FM - Foot Mounting TP - Tapped FF - Front Flange CP - Cap Pilot RF - Rear Flange	HCC	1 - (PTFE) Polytetrafluoroethylene 2 - (PU) Polyurethane 3 - (NBR) Nitrile Butadiene Rubber	M - Male F - Female	Specify a length from the range 20 mm to 170 mm (See Table B Below)

Table HCC(A) - Order Format For HCC Series

EXAMPLE -

50	FM	HCC	1	M	50
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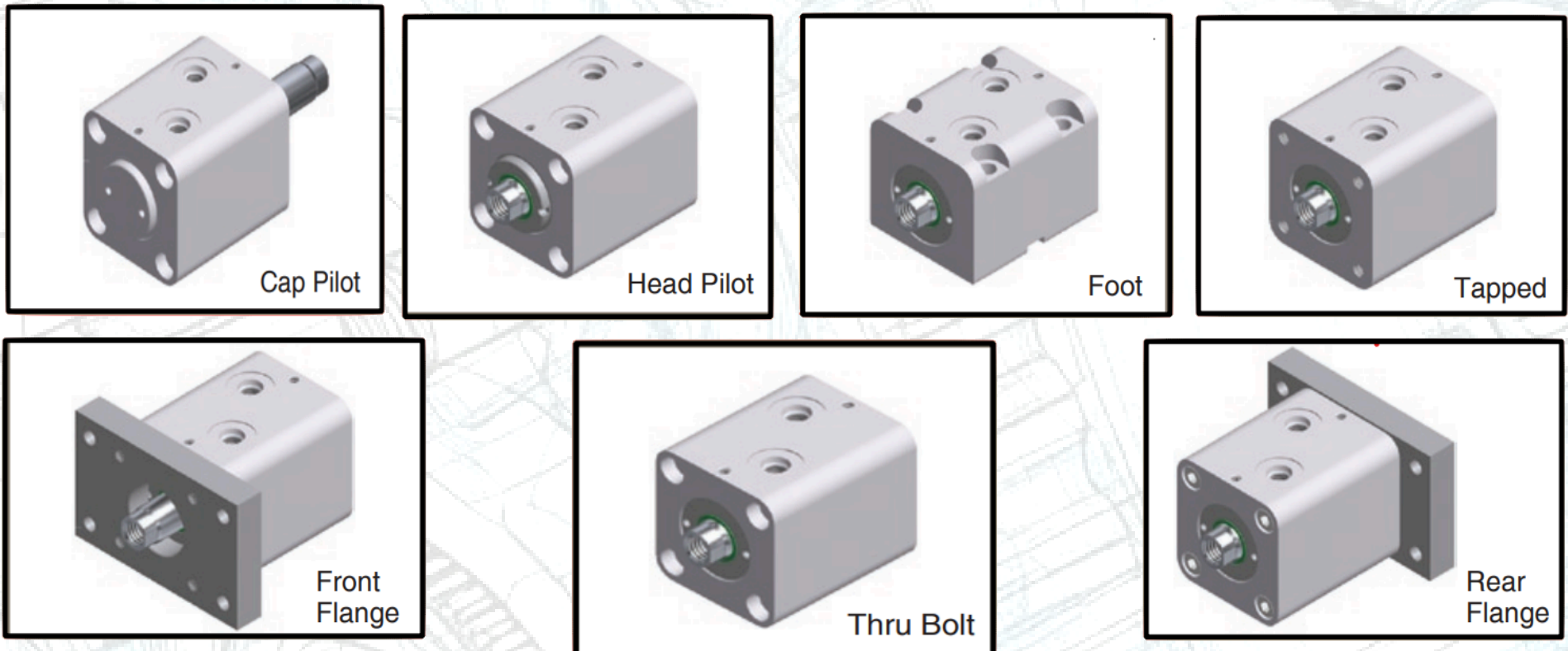
So, the order code would be - 50-FM-HCC-1-M-50

Sr. No	Bore \varnothing	Rod \varnothing (MM)	Operating Pressure Kgf/cm ²		Operating Speed MM/sec		Max. Cylinder Tonnage	Ambt. Temp Range OC	Piston Rod Threads				W (MM)	Port Size	Working Length (MM)
	ID (MM)		Max.	Min.	Max.	Min.			Male Type		Female Type				
									KK	A	KK	A			
1	25	20	520	10	300	15	10.21	-10 ~ +80	M16x2	12	M8x1.25	20	8	1/8	20 to 100
2	32	28	406	10	300	15	13.05	-10 ~ +80	M14x2	15	M8x1.25	20	10	1/4	20 to 100
3	40	35	325	10	300	15	16.33	-10 ~ +80	M18x2.5	18	M10x1.50	20	13	1/4	20 to 100
4	50	38	416	10	300	15	32.66	-10 ~ +80	M22x2.5	18	M14x2	24	13	1/4	20 to 150
5	63	45	330	10	300	15	41.13	-10 ~ +80	M33x3.5	30	M18x2.5	30	14	1/4	20 to 150
6	80	45	325	10	300	15	65.31	-10 ~ +80	M42x4.5	35	M18x2.5	35	17	3/8	20 to 170

Table HCC(B) - Order Details For HCC Series

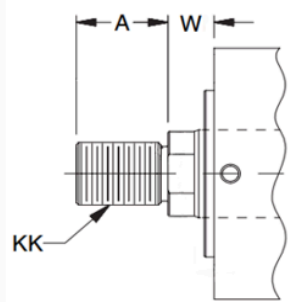
HCC MOUNTING-STYLES

We offer various mounting styles for our HCC 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.

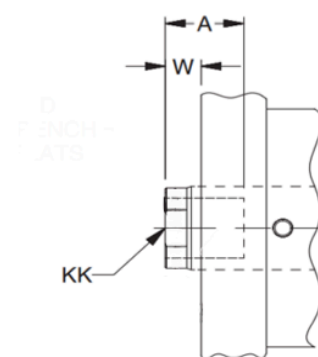


Thread Styles

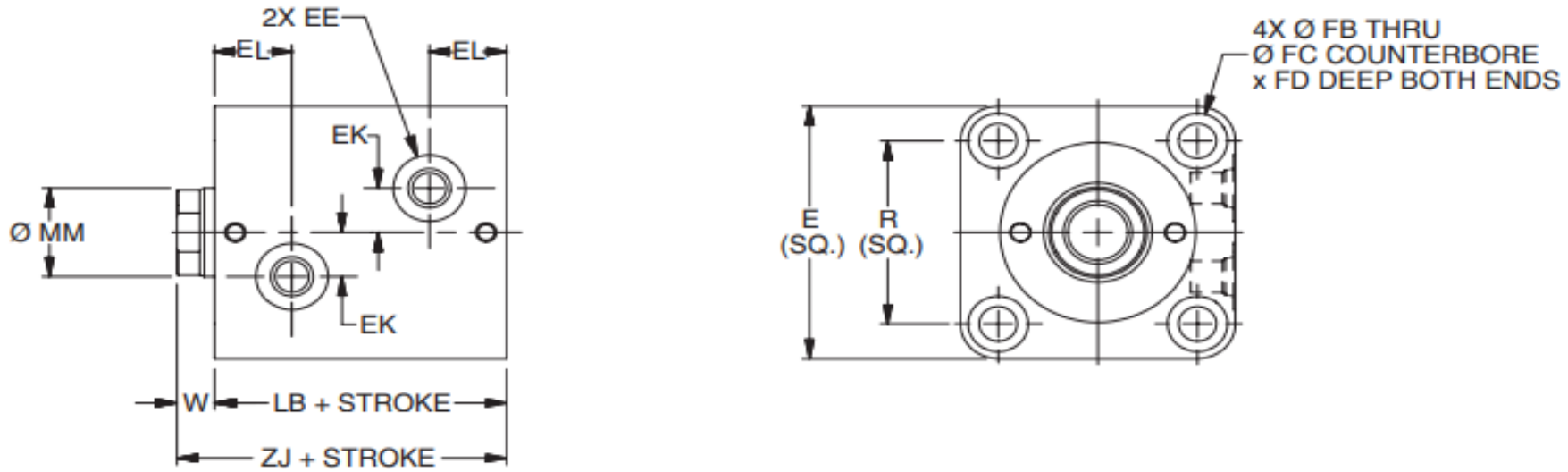
Male Thread Style



Female Thread Style



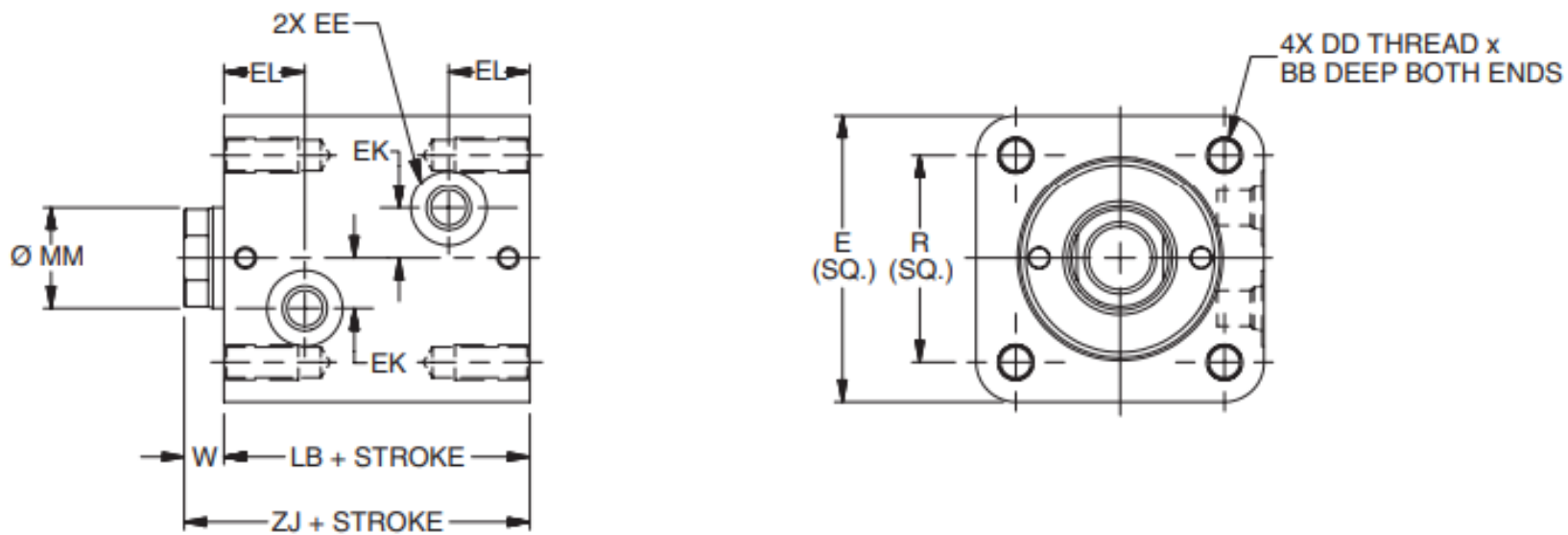
Through bolt Mounting Style



Bore Ø	E	EE	EK	EL	FB Ø	FC Ø	FD	R	Stroke	
									LB	ZJ
25	49	1/8	8	17.5	5.5	9.5	5.4	36	45	53
32	62	1/4	11	20.5	7	11	6.5	47	51	61
40	70	1/4	12	21	9	14	8.6	52	55	65
50	80	1/4	14	22.5	11	17.5	10.8	58	60	71
63	94	1/4	17	26	13.5	20	13	69	67	80
80	114	3/8	20	29.5	16	23	15.2	86	78	95

Table HCC(C) - Through Bolt Mounting Style Parameters

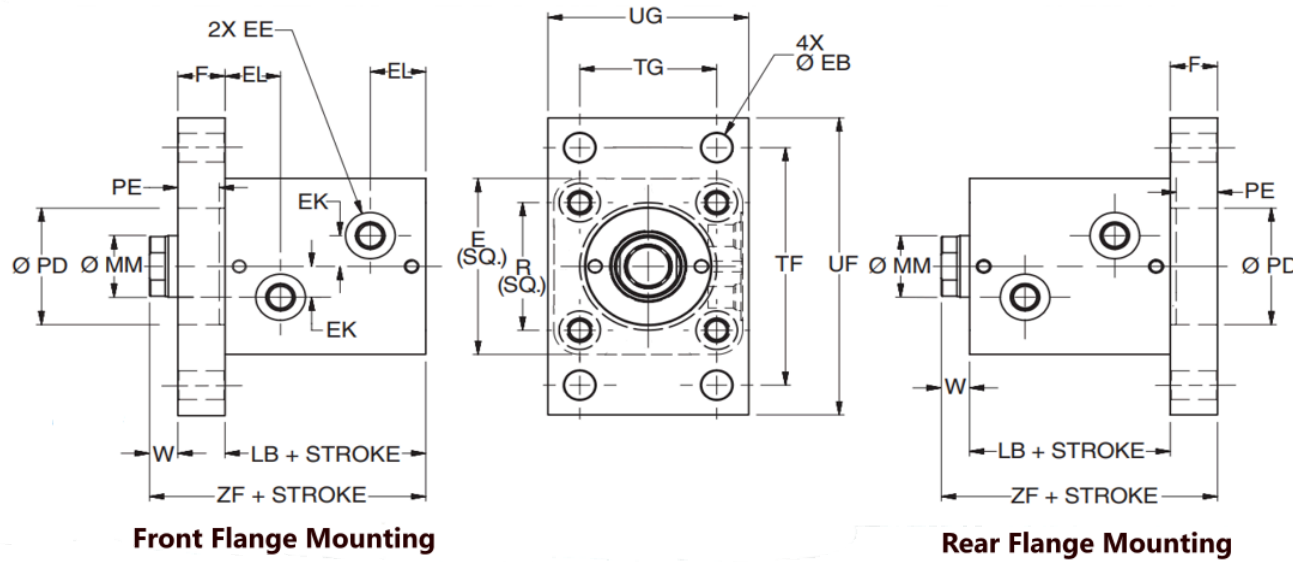
Tapped Mounting Style



Bore Ø	BB	DD	E	EE	EK	EL	R	Stroke	
								LB	ZJ
25	10.5	M6x1 - 18	50	1/8	8	17.5	36	45	53
32	12.5	M8x1.25 - 20	62	1/4	11	20.5	47	51	61
40	16.6	M10x1.5 - 20	70	1/4	12	21	52	55	65
50	20.8	M12x1.75 - 20	80	1/4	14	22.5	58	60	71
63	24.3	M14x2 - 22	94	1/4	17	26	69	67	80
80	28.8	M16x2 - 30	114	3/8	20	29.5	86	78	95

Table HCC(D) - Tapped Mounting Style Parameters

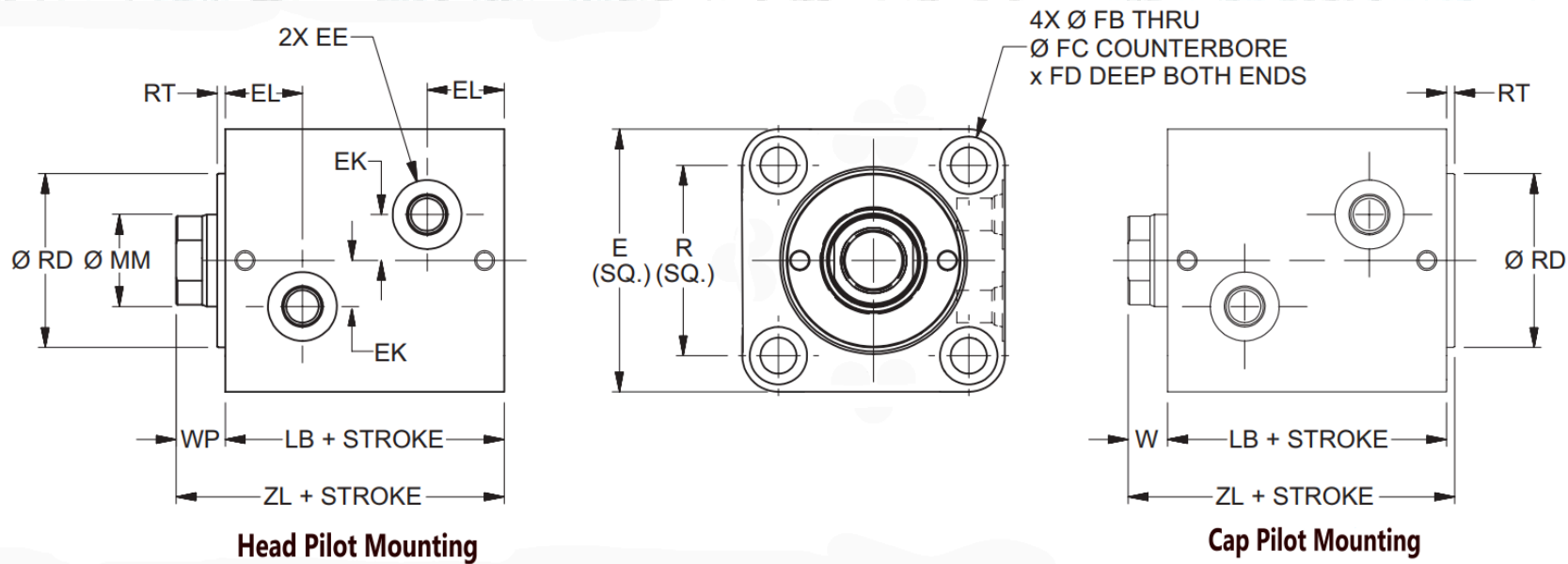
Front Flange And Rear Flange Mounting Style



Bore Ø	E	EE	EK	EL	F	EB Ø	PD Ø R	PE	R	TF	TG	UF	UG	Stroke	
														LB	ZF
25	49	1/8	8	17.5	12	5.5	27	9	36	66	36	80	52	45	65
32	62	1/4	11	20.5	12	6.8	36	9	47	80	40	95	62	51	73
40	70	1/4	12	21	16	11	43	13	52	96	46	118	70	55	81
50	80	1/4	14	22.5	20	13.5	53	17	58	108	58	135	85	60	91
63	94	1/4	17	26	20	15	66	17	69	124	65	150	98	67	100
80	114	3/8	20	29.5	25	17	83	21	86	154	87	185	118	78	120

Table HCC(E) - (Front And Rear) Flange Mounting Style Parameters

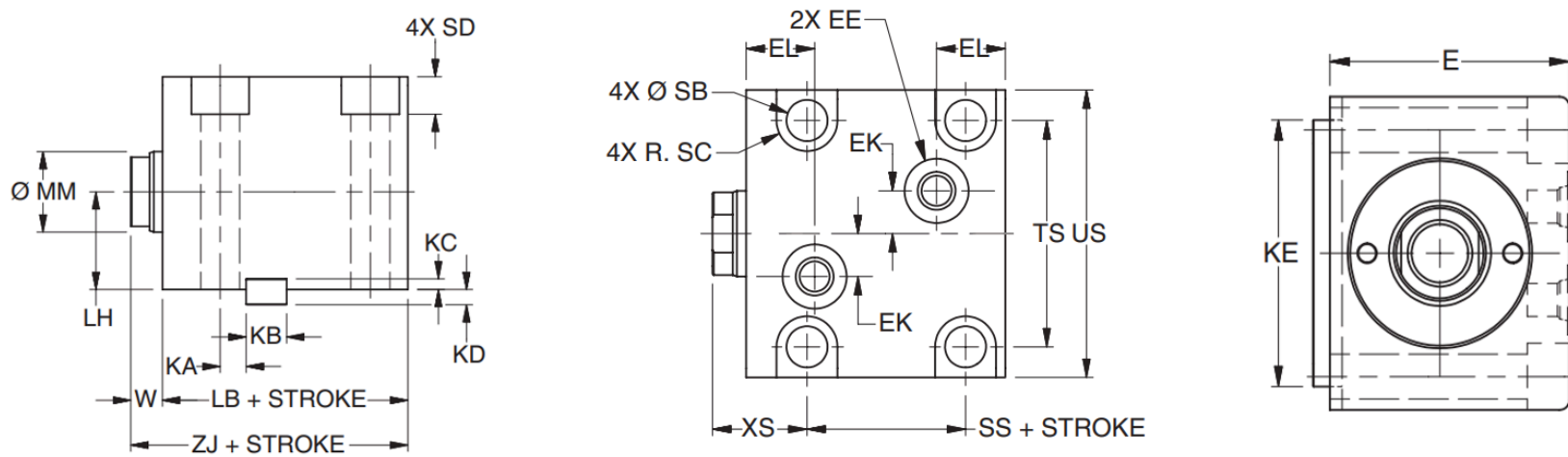
Head Pilot Mounting and Cap Pilot Mounting



Bore Ø	E	EE	EK	EL	FB Ø	FC Ø	FD	R	RD Ø	RT	Stroke	
											LB	ZJ
25	49	1/8	8	17.5	5.5	9.5	5.4	36	27	3	45	56
32	62	1/4	11	20.5	7	11	6.5	47	36	3	51	64
40	70	1/4	12	21	9	14	8.6	52	43	3	55	68
50	80	1/4	14	22.5	11	17.5	10.8	58	53	3	60	74
63	94	1/4	17	26	13.5	20	13	69	66	3	67	83
80	114	3/8	20	29.5	16	23	15.2	86	83	3	78	98

Table HCC(F) - (Head And Cap) Pilot Mounting Style Parameters

Foot Mounting Style



Bore Ø	E	EE	EK	EL	KA	KB	KC	KD	KE	LH	R	SB	SC	SD	TS	US	VS	XS	Stroke		
																			LB	ZJ	ZJ
25	45	1/8	7	17.5	8.5	8	3.25	3.75	45	20	36	6.8	5.5	6.5	39	50	28	23	45	53	53
32	56	1/4	11	20.5	8	12	3.25	4.75	63	25	47	9	7	8.6	56	70	42	30	51	61	61
40	64	1/4	12	21	8	12	3.25	4.75	70	29	52	11	8.75	10.8	62	80	-	30	55	65	65
50	74	1/4	14	22.5	9	14	3.75	5.25	80	34	58	13.5	10	13	74	94	-	31	60	71	71
63	89	1/4	17	26	11	16	4.25	5.75	100	42	69	16	11.5	15.2	90	114	-	33	67	80	80

Table HCC(G) - Foot Mounting Style Parameters

AGNI

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/cm²
5. Cylinder Seal Material.

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

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