

HPS-FA High Pressure Top Flange Swing Clamp Cylinder

Piston: $\varnothing 25 \sim \varnothing 63$ mm | Pressure Max: 500 bar

Introduction

- Swing clamp cylinders are typically used in applications where there is a need to maintain clear space for placing and clamping workpieces.
- The clamping action of a swing Clamp cylinder consists of two parts (as shown in Figure 1). It first rotates to a specific angle and then lowers to clamp the workpiece. It's essential not to clamp the workpiece during the rotational stroke, as it can damage the internal rotational mechanism.
- The swing clamp cylinders contains a clutch, which serves to separate the shaft and the internal rotational mechanism when the rotation speed is excessive, heavy clamping arm is installed, or when it collides with other objects during rotation. This is to protect the rotational mechanism from damage due to abnormal external forces.
- Swing clamp cylinders can be single-acting (with spring return) or double-acting, offering both clockwise and counterclockwise rotation. The standard rotation angle is 90° , with options for 60° , 45° , 30° , and 0° (as shown in Figure 2).
- Installation methods include base mounting and full-threaded mounting.
- You can choose pipe-mounted types or manifold-mounted types.

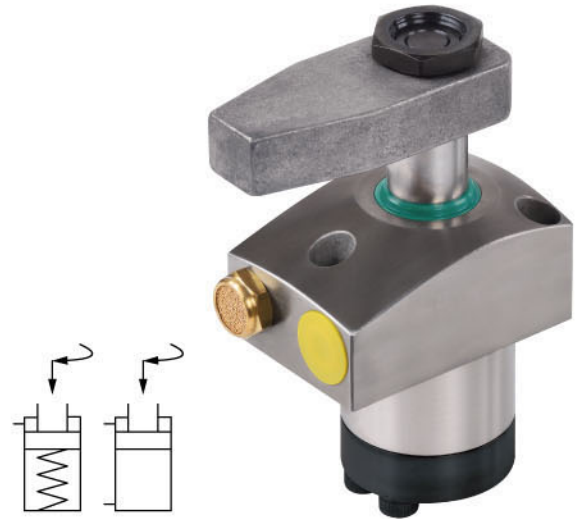


Figure 1

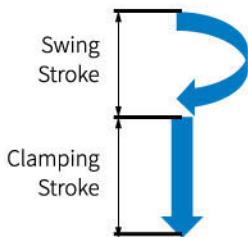


Figure 2

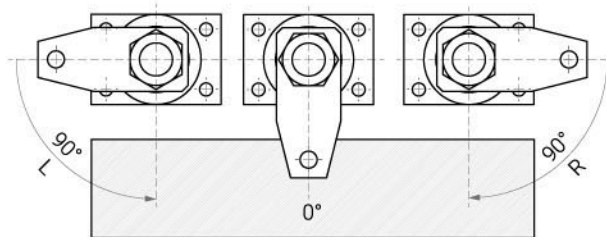
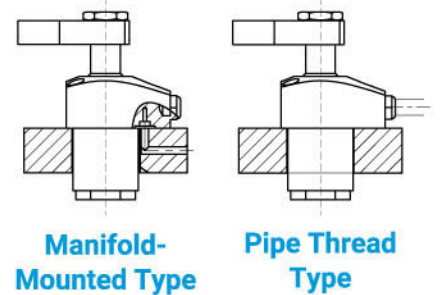


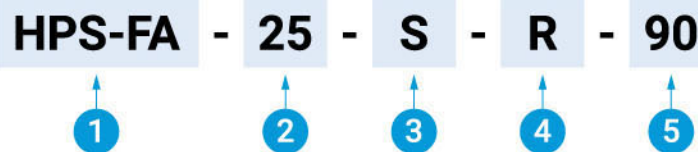
Figure 3



Precautions

- For the pressure plate length and operating pressure, please refer to the effective clamping force and operating pressure chart in the product specifications. Using a pressure plate length that exceeds the specified range can lead to cylinder damage.
- If you experience unreliable or unstable rotation, consider installing a flow control valve to reduce the rate of hydraulic fluid intake.
- For the maximum filling speed, consult the product specifications. Avoid using excessively high filling speeds to prevent excessively rapid rotation.

Part-No.



No.	Meaning	Option
1	Series	HPS-FA
2	Bore of Cylinder	$\varnothing 25 / \varnothing 40 / \varnothing 50 / \varnothing 63$
3	Acting Type	S: Single-Acting / D: Double-Acting
4	Rotating Direction	Turn Right R or Turn Left L
5	Rotating Angle	$90^\circ, 60^\circ, 45^\circ, 0^\circ$

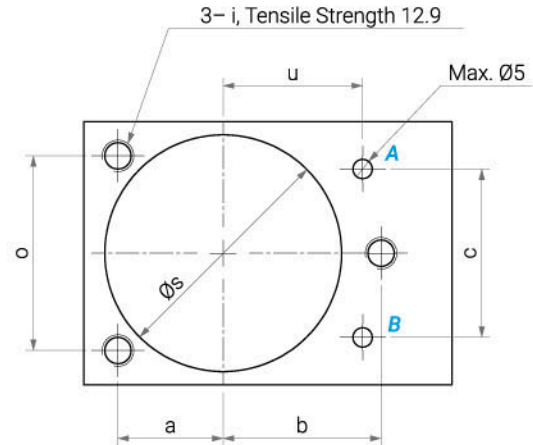
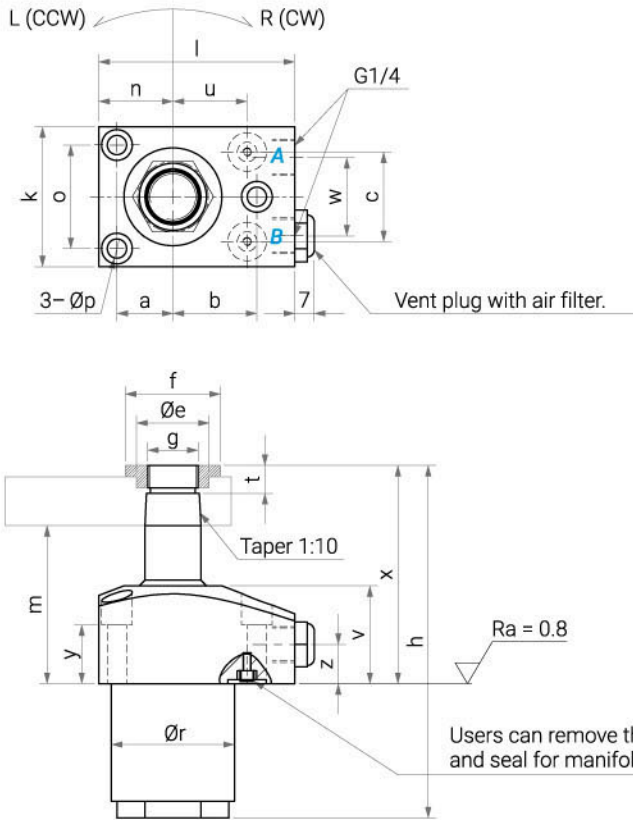
HPS-FA High Pressure Top Flange Swing Clamp Cylinder

Piston: $\varnothing 25 \sim \varnothing 63$ mm | Pressure Max: 500 bar

HPS-FA

Specifications

Specifications of Base



- A** Clamping.
- B** Unclamping / Vent Plug.

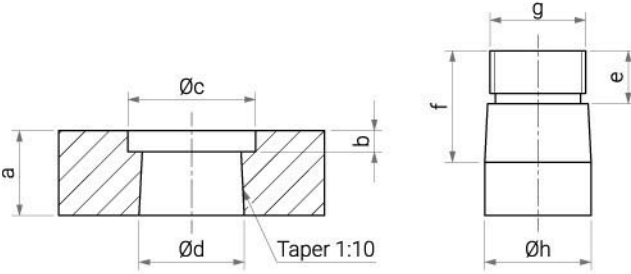
Items	Unit	HPS-FA25	HPS-FA40	HPS-FA50	HPS-FA63
Piston Diameter	mm	$\varnothing 25$	$\varnothing 40$	$\varnothing 50$	$\varnothing 63$
Rod Diameter	mm	$\varnothing 20$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$
Swing Stroke	mm	7	8	11	9
Clamping Stroke	mm	11	14	15	15
Full Stroke	mm	18	22	26	24
Max. Filling Speed	cc/s	3.2	10	18.4	27.7
Oil Volume / Stroke	cc	3.2	10	18.4	27.7
Oil Volume / Return Stroke	cc	8.8	27.7	51	74.8
Rotation Direction	-	Right / Left			
Rotation Angle	-	90°, 60°, 45°, 0°			
Acting	-	Single / Double			
Min. Pressure	bar	40	40	40	40
a	mm	20	27	37	42
b	mm	30	38	50	55
c	mm	32	46	62	75
$\varnothing e$	mm	23.5	33.8	45	55.5
f	mm	30	40	55	68

Items	Unit	HPS-FA25	HPS-FA40	HPS-FA50	HPS-FA63
g	mm	M18×1.5	M28×1.5	M35×1.5	M45×1.5
h	mm	126.5	147.5	172	182
i	mm	M6	M8	M10	M12
k	mm	50	63	85	95
l	mm	70	85	110	125
m	mm	57	65	70	69
n	mm	26.5	34.5	47	55
o	mm	37	48	65	72
$\varnothing p$	mm	6.6	9	11	14
$\varnothing r$	mm	44	59.8	79.8	89.8
$\varnothing s$	mm	45	61	80	90
t	mm	9	10	11	12
u	mm	26.5	31	40	45
v	mm	35	40	40	40
w	mm	28	41	55	70
x	mm	78	93	104	109
y	mm	21	27	25	14
z	mm	14	14	12	12
The Moment of Overload Protection	Nm	3.5	11	17	22

HPS-FA High Pressure Top Flange Swing Clamp Cylinder

Piston: $\varnothing 25 \sim \varnothing 63$ mm | Pressure Max: 500 bar

Dimensions of Clamping Arms



Type	a	b	$\varnothing c$	$\varnothing d$	e	f	g	$\varnothing h$
HPS-25	16	4	24	19.9	10	21	M18×1.5	20
HPS-40	23	5	34	31.9	11	28	M28×1.5	32
HPS-50	28	5	46	39.9	12	34	M35×1.5	40
HPS-60	34	6	56	49.9	13	40	M45×1.5	50

Effective Clamping Force & Operating Pressure Chart

