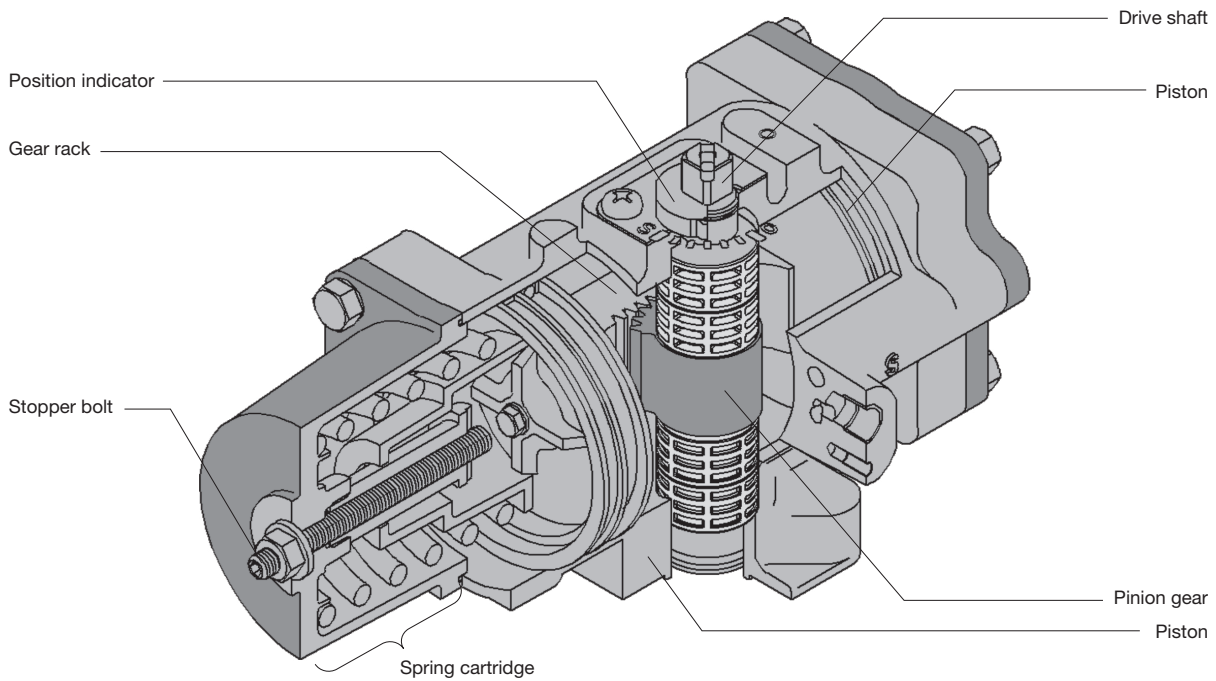


## Type FAS (Spring-Return)



## Actuator Output Torque

### Double-action

unit : N·m

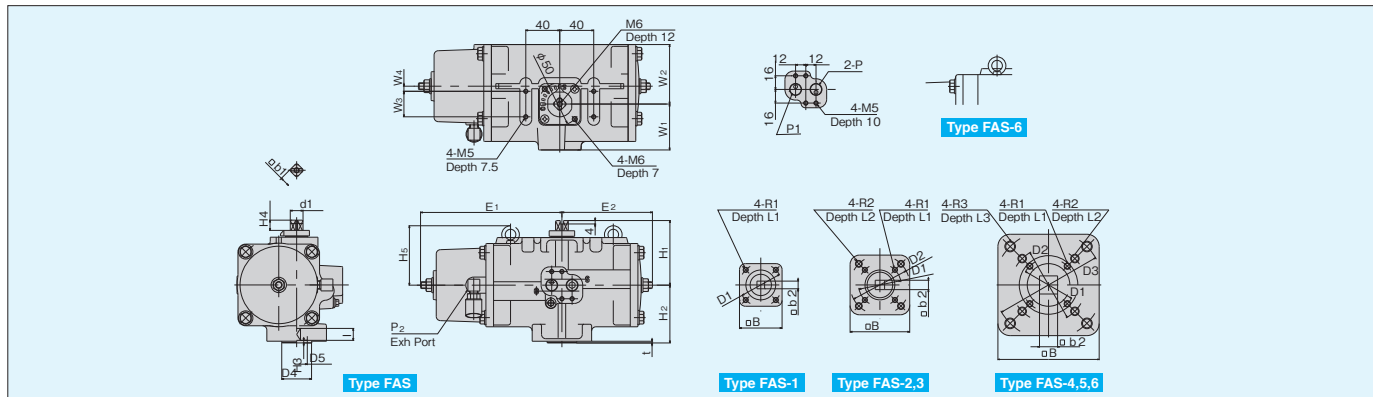
Type	Operating pressure (air) 0.4 MPa	
	FA-1	19.2
FA-2	45.4	
FA-3	91.6	
FA-4	182	
FA-5	338	
FA-6	800	

### Spring-return

unit : N·m

Type	Operating pressure (air) 0.4 MPa		Operating force (Spring)	
	0°	90°	0°	90°
FAS-1	12.1	8.0	7.6	11.7
FAS-2	27.5	19.1	18.0	26.3
FAS-3	55.3	37.3	35.2	53.1
FAS-4	111.0	75.7	74.7	110.0
FAS-5	206.0	140.0	137.0	203.0
FAS-6	487.0	325.0	319.0	481.0

## Type FAS (Spring-return)



## Type FAS Dimensions

unit : mm

Type	E <sub>1</sub>	E <sub>2</sub>	W <sub>1</sub>	W <sub>2</sub>	W <sub>3</sub>	W <sub>4</sub>	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>4</sub>	H <sub>5</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>	d <sub>1</sub>	b <sub>1</sub>	b <sub>2</sub>	B	ℓ	t	R <sub>1</sub> ×L <sub>1</sub>	R <sub>2</sub> ×L <sub>2</sub>	R <sub>3</sub> ×L <sub>3</sub>	P1	P2
FAS-1	132	87	50	54	30	0	70	55	3	12	—	50	—	—	35	25	15	12	9	50	16	2	M6 × 9	—	—	BSPT1/4	BSPT1/8
FAS-2	166	107	54	70	30	6	80	68	3	12	—	50	70	—	35	30	15	12	11	70	16	2	M6 × 9	M8 × 12	—	BSPT1/4	BSPT1/8
FAS-3	203	128	57	87	30	13	86	78	3	12	—	50	70	—	35	32	21	17	13	70	25	2	M6 × 9	M8 × 12	—	BSPT1/4	BSPT1/8
FAS-4	290	160	68	111	30	21	108	96	4	12	—	50	70	102	55	40	21	17	17	95	27	3	M6 × 9	M8 × 12	M10×15	BSPT1/4	BSPT1/8
FAS-5	363	208	78	135	30	30	132	116	5	20	—	70	102	125	55	50	29	23	27	113	34	3	M8×12	M10×15	M12×18	BSPT1/4	BSPT1/8
FAS-6	483	268	101	178	30	45	152	125	5	20	157	70	102	125	70	60	41	32	27	134	34	3	M8×12	M10×15	M12×18	BSPT1/4	BSPT1/8

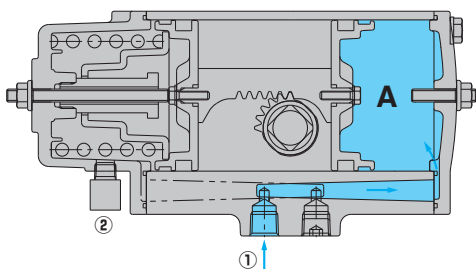
## Type FAS (Spring-return)

- (1) Air pressure supplied into the chamber **A** through port ①, pushes gear rack with two pistons outward, compresses the spring and discharges the air residue through port ②.
- (2) The gear rack rotates the pinion gear and the shaft counter-clockwise, to drive the valve.
- (3) At the moment the air in the chamber **A** is discharged through the solenoid valve, the spring force pushes the pistons to the reverse direction, and the gear rack activates rotation of the shaft clockwise to reversely operate the valve.

## Cylinder volume

unit : ℓ

Type	Chamber A
FAS-1	0.15
FAS-2	0.31
FAS-3	0.61
FAS-4	1.29
FAS-5	2.29
FAS-6	5.27



# Actuator Sizing

## Type FAS (Spring-Return)

Type	Bore	Shell Material	Class	Conection	Size Product coding	Size																		
						A	10	15	20	25	32	40	50	65	80	100	125	150	200	250	300			
						B	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12			
Ball Valve	Full Bore	Cast Iron	JIS 10K	Threaded	10FCT																			
				Flanged	10FCTB																			
		Ductile Iron	JIS 10K	Flanged	10STBF																			
					Threaded	10UT																		
		Stainless Steel	JIS 10K Class 150	Flanged	10/150UTB, 10/150UTDZ			FAS-1			FAS-2		FAS-3		FAS-4		FAS-5		FAS-6					
					20/300UTB, 20/300UTDZ											*								
	JIS 20K Class 300		Flanged	10/150SCTDZ																				
				20/300SCTDZ													*							
	Reduced Bore	Stainless Steel	JIS 10K Class 150	Flanged	10UTR · 150UTR									FAS-3									FAS-6	
					20UTR · 300UTR																			
		Carbon Steel	Class 150	Flanged	150SCTR														FAS-5					
					300SCTR																			
Full Bore (3 way)	Stainless Steel	JIS 10K	Flanged	10UTB4T (L) A			FAS-2		FAS-3			FAS-4	FAS-5		FAS-6									
				10UTBLN			FAS-1		FAS-2		FAS-3		FAS-4		FAS-5									
Full Bore (PFA Lining)	Stainless Steel	JIS 10K	Flanged	10UTB4T (L) A			FAS-2		FAS-3			FAS-4	FAS-5		FAS-6									
				10UTBLN			FAS-1		FAS-2		FAS-3		FAS-4		FAS-5									
				10UTB4T (L) A			FAS-2		FAS-3			FAS-4	FAS-5		FAS-6									
				10UTBLN			FAS-1		FAS-2		FAS-3		FAS-4		FAS-5									
Butterfly Valve	Aluminum	JIS 10K	Wafer	10XJME									FAS-2		FAS-3		FAS-4		FAS-5		FAS-6			
				10XJSME																				
	Ductile Iron	JIS 16K BS PN16	Wafer	10DJ																				
				16DJ, PN16DJ																				

Note : The standard combination of UTDZ/SCTDZ size 20<sup>A</sup> (3/4<sup>B</sup>) is FAS-2

\*FAS-5 for TDZ.