

# BM BOOSTER CYLINDERS

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Hydraulic  
Cylinder



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Cylinders



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cylinders

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Hydraulic  
Cylinders

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Cylinders

Systems  
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## BMT BOOSTER CYLINDERS

BMT  
Basic  
One section  
unclamping special



- Suitable for belt type, gear type drive... Etc., Require high-speed unclamping dedicated.
- Directly mounted on the spindle unclamping.

### SPEC.

	BMT standard type
Actuating pressure	0.4Mpa-0.6Mpa(4kgf /cm <sup>2</sup> - 6kgf/cm <sup>2</sup> ) Filter compressed air
Transmission oil	46#Viscosity gradeISO VG32orSame level
Temperature range	0°C-60°C
total stroke	13, 15, 17
voltage	DC24,AC110,Ac220

### FEATURE

- Super fast tool change, knife to knife exchange is completed within 1 second



- The upper and lower clamping tool position detection mechanism improves the accuracy and speed of mechanical tool change

Very simplified design, beautiful appearance, not easy to loose, accurate adjustment position, can greatly improve the accuracy and speed of mechanical tool change

- Modular design

The control valve adopts the wall-mounted connection, the cylinder cylinder pipe is hidden, which not only makes the gas flow large, but also the appearance is simple and beautiful; And save installation hours and joint oxygen tube cost.

- Select the internal seal of unclamping cylinder

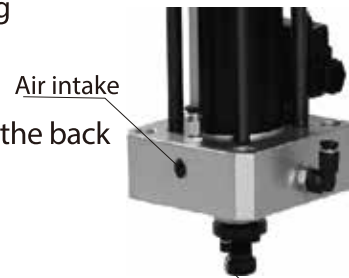
By using many years of professional experience and many experiments, the best type is selected, which can not only reduce the consumption of the driving oil, but also eliminate the frequent addition of oil. Avoid damage to high-speed spindles due to oil leakage.

## FEATURE

- The fixed flange seat is equipped with automatic air blowing cleaning function when the knife is loosened

No additional blowing source

- The impact end point is quenched and hardened, and the size of the back teeth is adjustable, crash-resistant, and easy to adjust.



Air intake

Striking end



Oil cup oil level detection device

- Oil cup oil level detection device

The oil cup is designed flat and directly attached to the wall. It has the advantages of stable, no leakage, no space, and no distorted material. There is a float inside, with the outside sensor to detect the oil level, which can inform the computer in advance to avoid the loss of knife collision and stop without cause. And beautiful in appearance. The whole group is made of oil-resistant, crash-resistant, transparent material, which can be easily damaged by visual oil quantity.

## WORKING DESCRIPTION



BMT standard type

- Actuating pressure Mpa (kgf/c m<sup>2</sup>) (note1 )
- Spindle unclamping total travel mm (note2 )  
unclamping cylinder Reserve a gap between the clamping end point and the spindle mm (note3 )
- unclamping total output of spindle kgf (note4)
- Five-port two-speed solenoid valve voltage
- unclamping cylinder conforms to tool library specifications-BT30#, BT40#, BT50#
- Spindle broach force kgf
- Spindle tip tool quantity mm
- The original brand and specification of Air-Oil Boosting Unclamping Cylinder

- note1. The operating pressure error must be within  $\pm 0.1$  Mpa (1 kgf/c m<sup>2</sup>), recommended operating pressure set to 0.6 Mpa (6 kgf/c m<sup>2</sup>).
- note2. The total run must include gaps between the spindles.
- note3. The ideal gap between spindle and spindle is recommended to be 0.5 mm.
- note4. Reserve 20% to 30% of the total output of the spindle unclamping cylinder.

Tie-rod Hydraulic Cylinder

Mold Hydraulic Cylinders

Swivel & Clamp Hydraulic Cylinders

Booster Cylinders & Unclamping cylinders

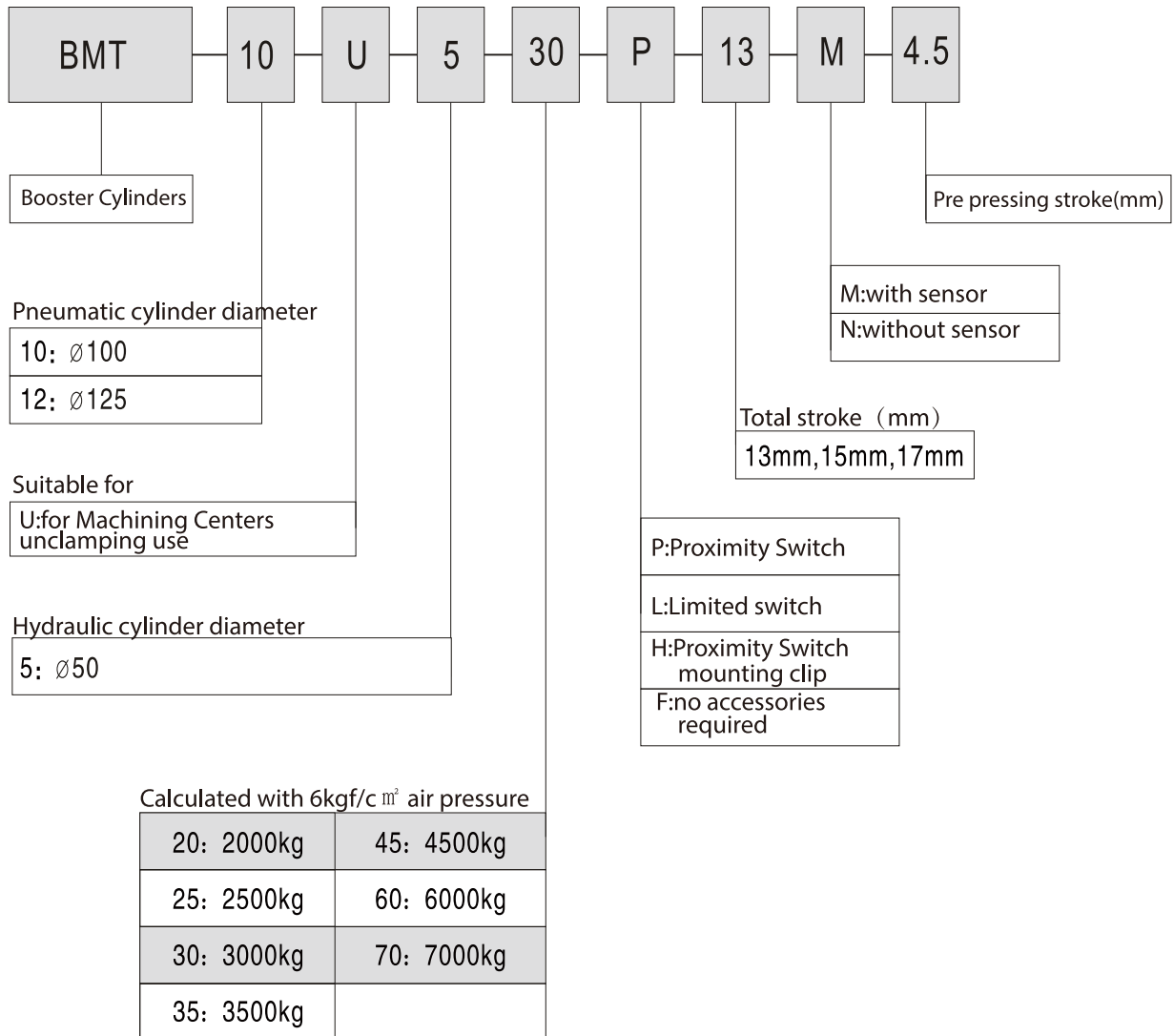
ISO Specifications Cylinders

Round Hydraulic Cylinders

Specific Hydraulic Cylinders

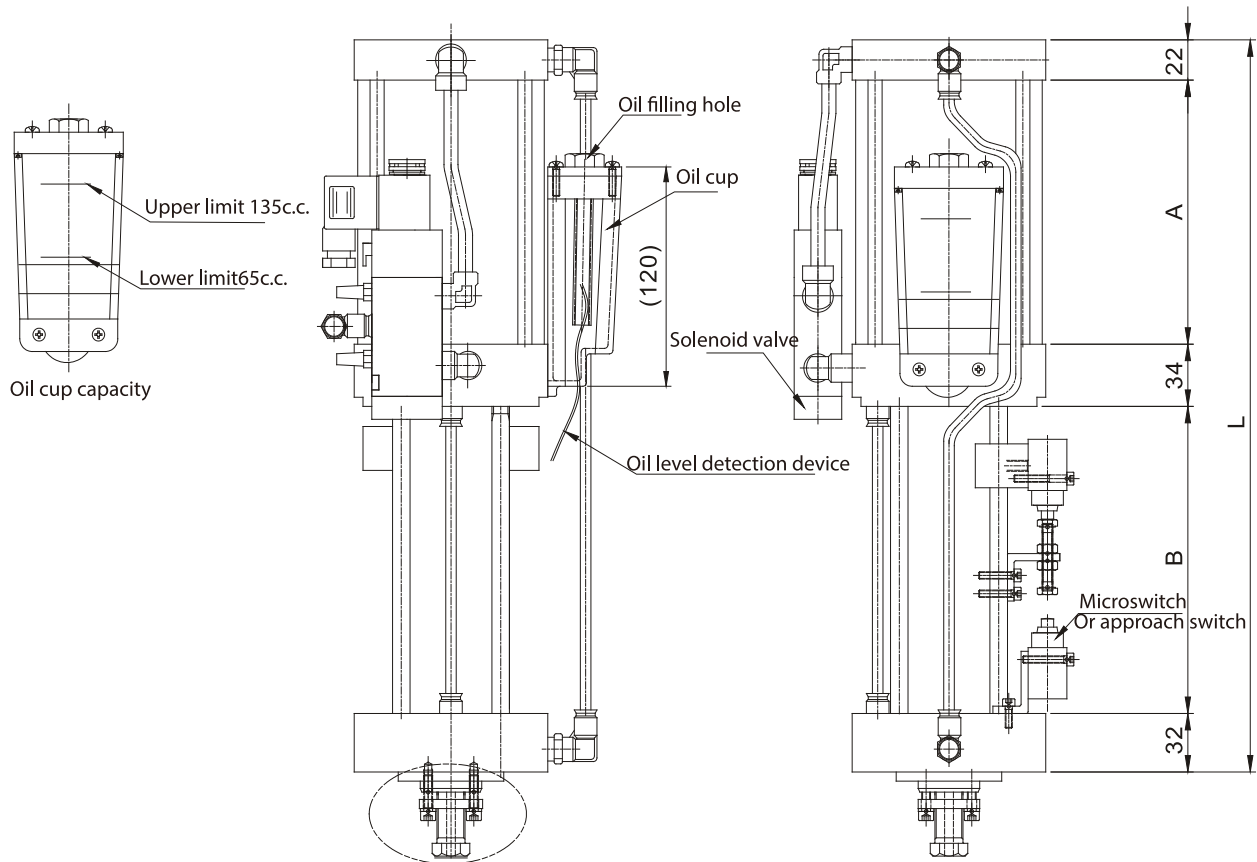
Systems & Fittings

## ORDER INDICATION

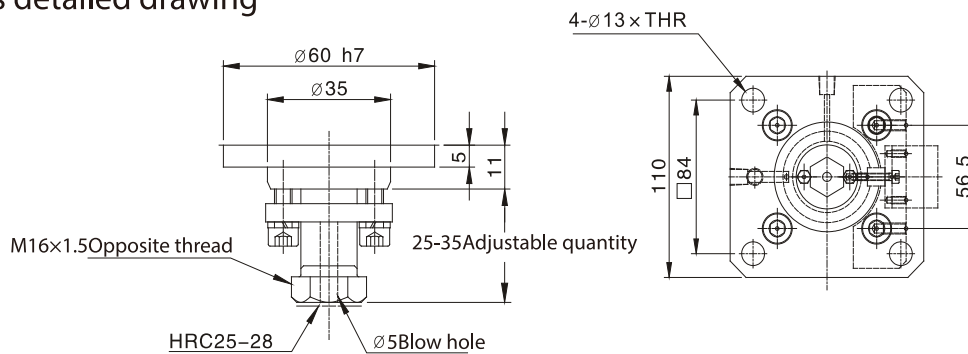


## EXTERNAL DIMENSIONS

- BMT(2T~6T)standard type



Axis detailed drawing



Tie-rod Hydraulic Cylinder

Mold Hydraulic Cylinders

Swivel & Clamp Hydraulic Cylinders

Booster Cylinders & Unclamping cylinders

ISO Specifications Cylinders

Round Hydraulic Cylinders

Specific Hydraulic Cylinders

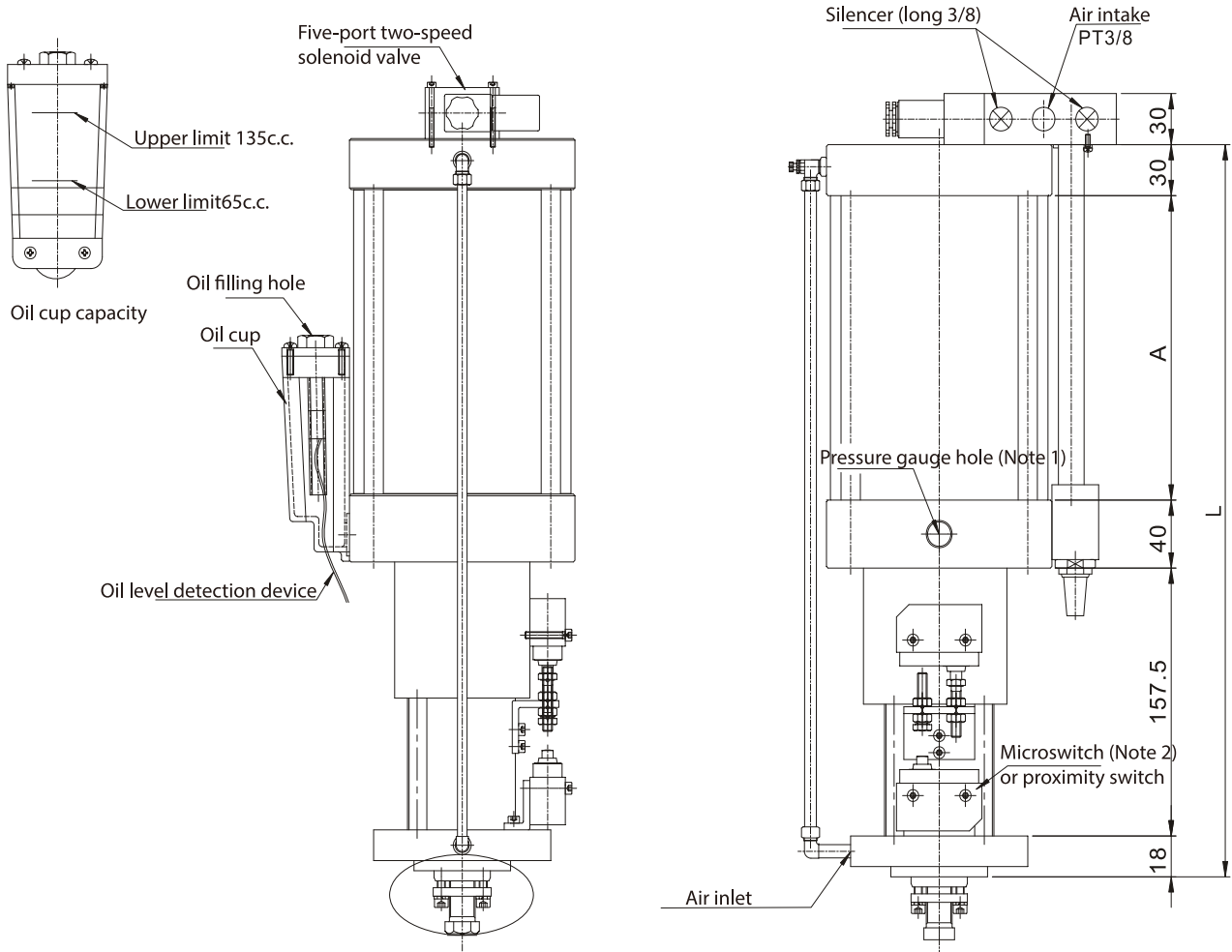
Systems & Fittings

Specification	A	B	L	theoretical force			Boosting ratio
				4	5	6	
2.0T×ST13	124.5	168	380.5				
2.0T×ST15	134.5	170	392.5	1256	1570	1884	16
2.0T×ST17	144.5	172	404.5				
2.5T×ST13	139.5	168	395.5				
2.5T×ST15	149.5	170	407.5	1564	1956	2347	19.9
2.5T×ST17	159.5	172	419.5				
3.0T×ST13	154.5	168	410.5				
3.0T×ST15	169.5	170	427.5	1963	2453	2944	25
3.0T×ST17	179.5	172	439.5				

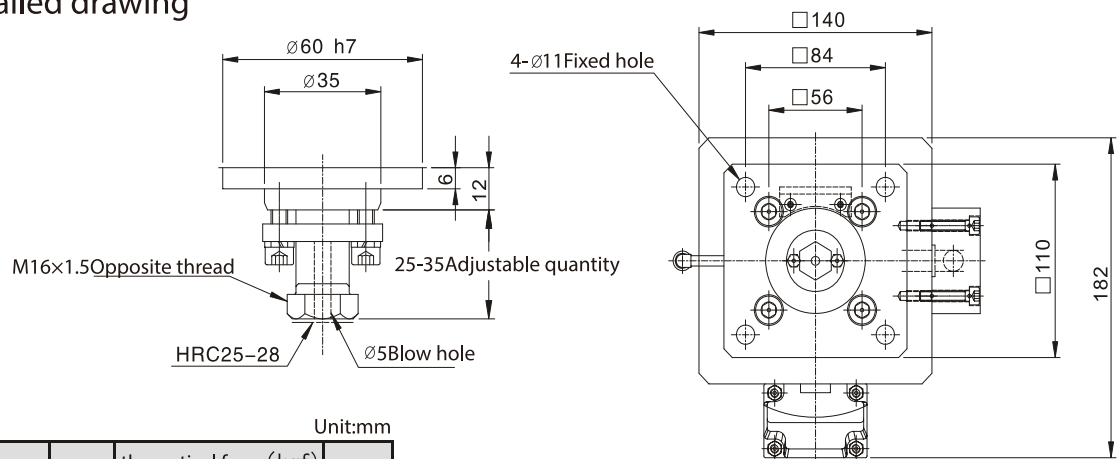
Specification	A	B	L	theoretical force			Boosting ratio
				4	5	6	
3.5T×ST13	174.5	168	430.5				
3.5T×ST15	189.5	170	447.5	2423	3029	3634	30.8
3.5T×ST17	204.5	172	464.5				
4.5T×ST13	199.5	168	455.5				
4.5T×ST15	216.5	170	474.5	3066	3833	4600	39
4.5T×ST17	236.5	187	511.5				
6.0T×ST13	239.5	188	515.5				
6.0T×ST15	264.5	215	567.5	4003	5004	6005	51
6.0T×ST17	289.5	240	617.5				

## EXTERNAL DIMENSIONS

- BMT(7T) standard type



Axis detailed drawing



Unit:mm

Specification	A	L	theoretical force(kgf)			Boosting ratio
			4	5	6	
7.0T×ST13	160	405.5	4710	5887	7065	60
7.0T×ST15	179	424.5				

- Note 1: The standard does not have this hole, the customer must indicate
- Note 2: The microswitch can be selected

**BMV BOOSTER CYLINDERS**



- Suitable for straight spindle, motor built-in spindle, etc., requirements High speed unclamping special
- The BMV Air-Oil Unclamping Booster is a power source and must be used with a hollow hydraulic cylinder.

- Tie-rod Hydraulic Cylinder
- Mold Hydraulic Cylinders
- Swivel & Clamp Hydraulic Cylinders

**SPEC.**

	BMV
Actuating pressure	0.4Mpa-0.6Mpa(4kgf/cm <sup>2</sup> -6kgf/cm <sup>2</sup> ) Filter compressed air
Transmission oil	46#Viscosity gradeISO VG32orSame level
Temperature range	0°C-60°C
total stroke	150cc、110cc、70cc、50cc
voltage	DC24,AC110,Ac220

- Booster Cylinders & Unclamping cylinders
- ISO Specifications Cylinders

**FEATURE**

- Designed to provide oil pressure power for straight spindle and internal spindle Use with unclamping cylinder.
- Modular design  
The control valve adopts the wall-mounted connection, the cylinder pipe is hidden, which not only makes the gas flow large, but also the appearance is simple and beautiful; And save installation hours and joint oxygen tube cost.
- Select the internal seal of unclamping cylinder  
By using many years of professional experience and many experiments, the best type is selected, which can not only reduce the consumption of the driving oil, but also eliminate the frequent addition of oil. Avoid damage to high-speed spindles due to oil leakage.



- Round Hydraulic Cylinders
- Specific Hydraulic Cylinders
- Systems & Fittings

**FEATURE**

■ Oil cup oil level detection device

The oil cup is designed flat and directly attached to the wall. It has the advantages of stable, no leakage, no space, and no distorted material. There is a float inside, with the outside sens or to detect the oil level, which can inform the computer in advance to avoid the loss of knife collision and stop without cause. And beautiful in appearance. The whole group is made of oil-resistant, crash-resistant, transparent material, which can be easily damaged by visual oil quantity.



Oil cup oil level detection device

**WORKING DESCRIPTION**

BMV  
Upright type  
One section  
unclamping special



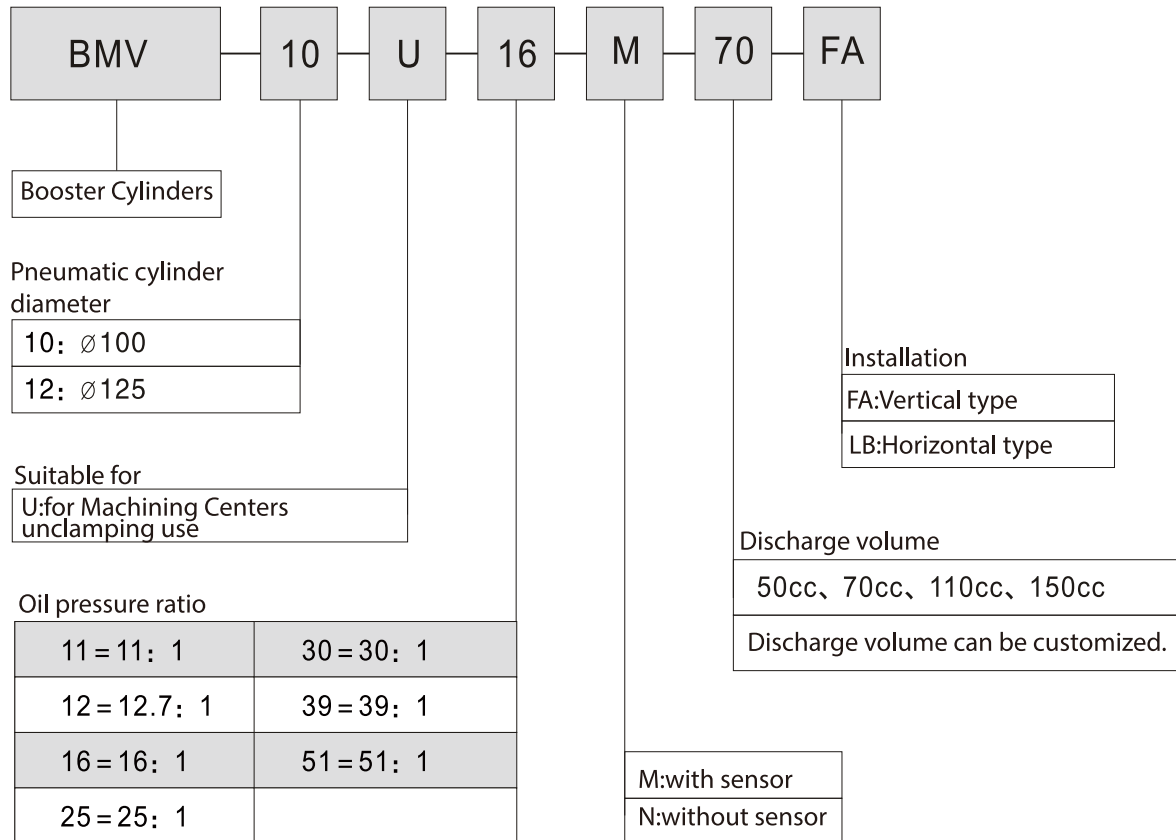
BMV  
horizontal



- Actuating pressure Mpa (kgf/c m<sup>2</sup>) (note 1 )
- Unclamping cylinder cc total (Note 2)
- Unclamping supercharging ratio
- Five-port two-speed solenoid valve voltage
- Clamping cylinder Tool library specifications BT30#, BT40#, BT50#
- Spindle broach force kgf
- Spindle tip tool quantity mm
- The original brand and specification of Air-Oil Boosting Unclamping Cylinder
- Note 1. The operating pressure error must be within  $\pm 0.1$  Mpa (1 kgf/c m<sup>2</sup>), recommended operating pressure set to 0.6 Mpa (6 kgf/c m<sup>2</sup>).
- Note 2. Reserve 20% to 30% of the total cc volume of unclamping cylinder.



## ORDER INDICATION



Tie-rod Hydraulic Cylinder

Mold Hydraulic Cylinders

Swivel & Clamp Hydraulic Cylinders

Booster Cylinders & Unclamping cylinders

ISO Specifications Cylinders

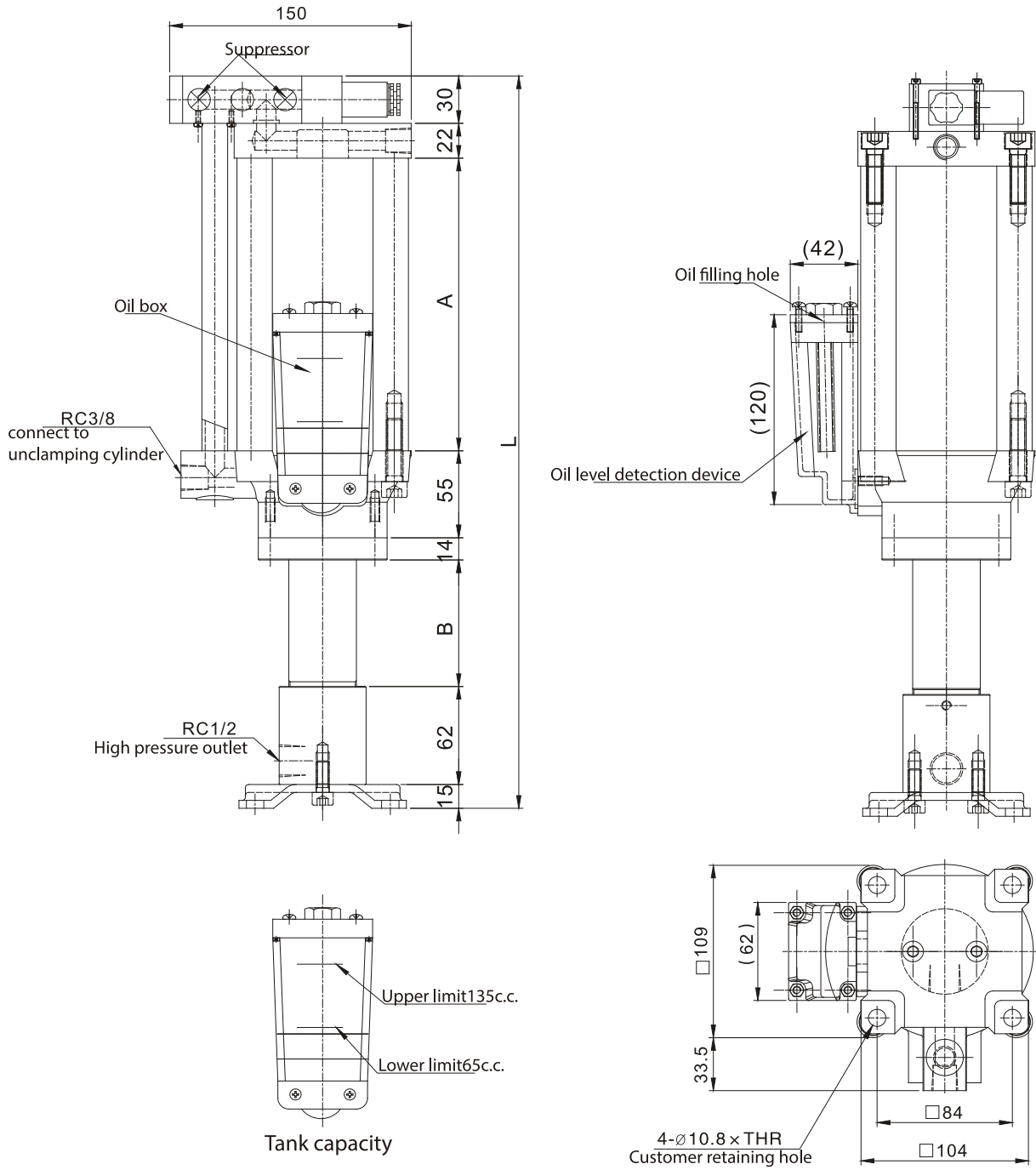
Round Hydraulic Cylinders

Specific Hydraulic Cylinders

Systems & Fittings

**EXTERNAL DIMENSIONS**

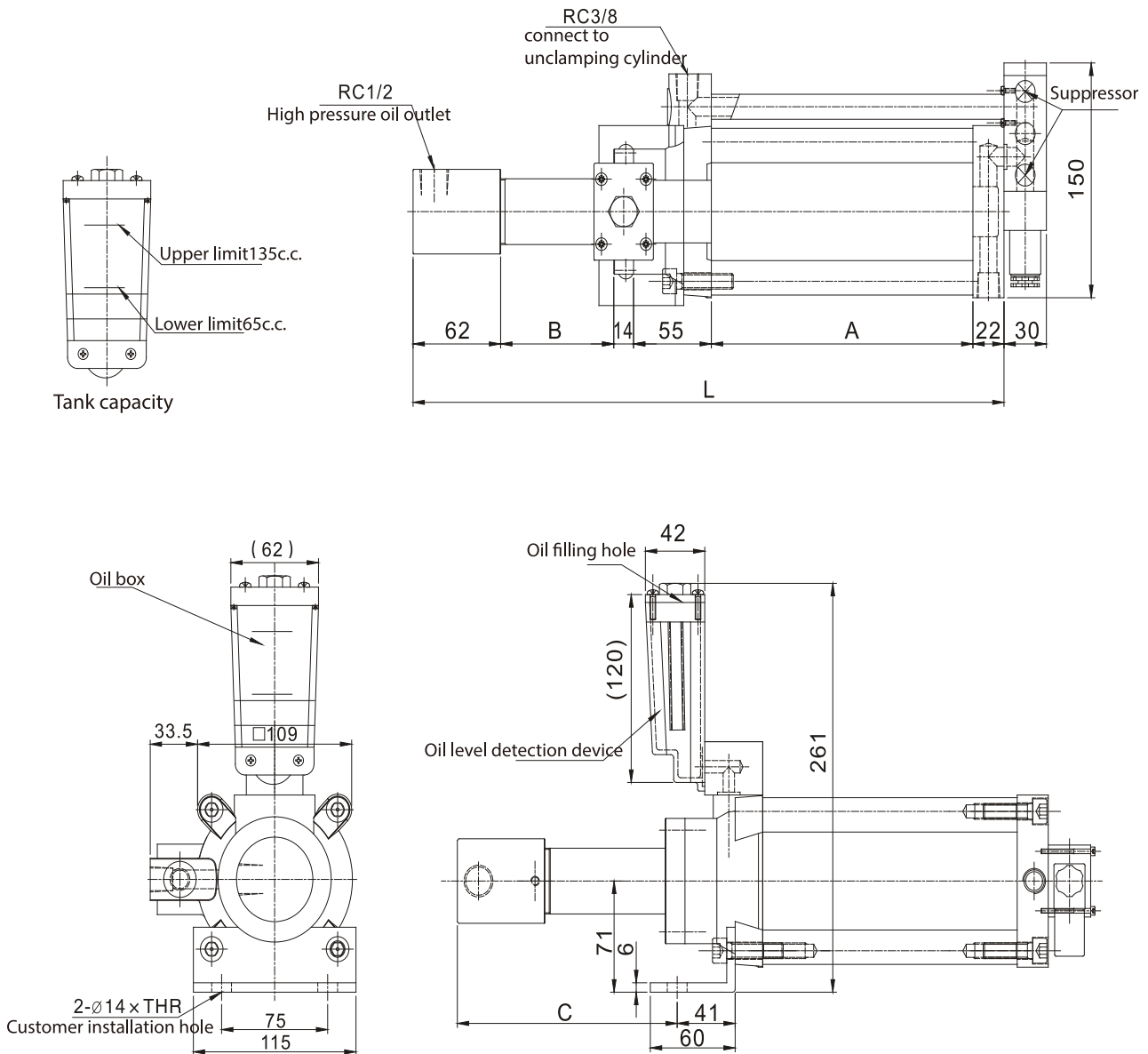
- FA:Vertical type



Symbol	A				B				L				Liquid force (kgf)		
Output capacity Boosting ratio	50	70	110	150	50	70	110	150	50	70	110	150	4	5	6
11:1	131	159	215	271	23	51	107	163	322	378	490	602	44	55	66
12.7:1	139	172	238	304	31	64	130	196	338	404	536	668	51	63	76
16:1	166	206	286	366	58	98	178	258	392	472	632	792	64	80	96

## EXTERNAL DIMENSIONS

- LB: horizontal type



Tie-rod Hydraulic Cylinder

Mold Hydraulic Cylinders

Swivel & Clamp Hydraulic Cylinders

Booster Cylinders & Unclamping cylinders

ISO Specifications Cylinders

Round Hydraulic Cylinders

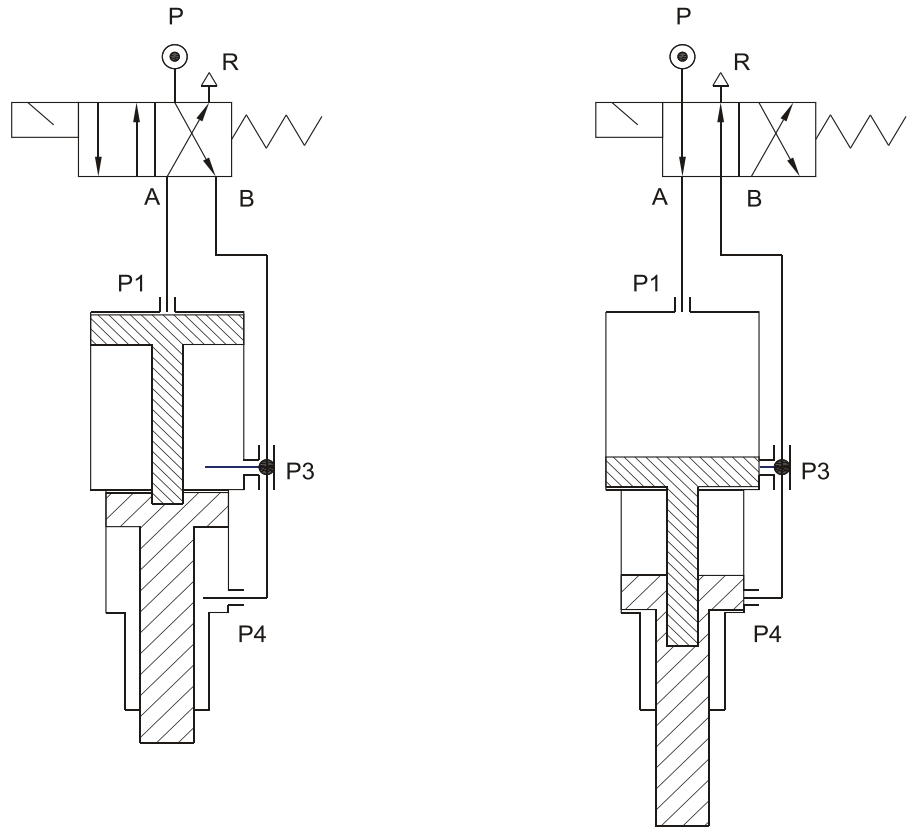
Specific Hydraulic Cylinders

Systems & Fittings

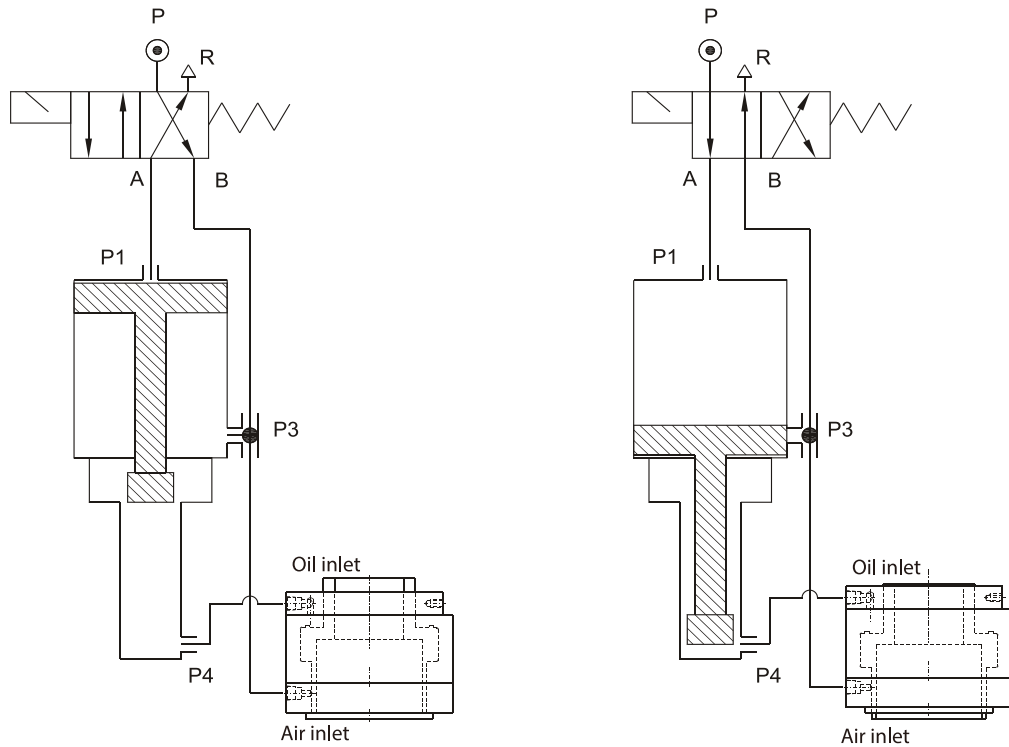
Symbol	A				B				C				L				Liquid force (kgf)		
Output capacity	50	70	110	150	50	70	110	150	50	70	110	150	50	70	110	150	4	5	6
Boosting ratio																			
11:1	131	159	215	271	23	51	107	163	93.5	121.5	177.5	233.5	307	363	475	587	44	55	66
12.7:1	139	172	238	304	31	64	130	196	101.5	134.5	200.5	266.5	323	389	521	653	51	63	76
16:1	166	206	286	366	58	98	178	258	128.5	168.5	248.5	328.5	377	457	617	777	64	80	96

## BMT/BMV CIRCUIT

- BMT Circuit



- BMV Circuit



## JUC UNCLAMPING CYLINDER



- Designed for center outlet spindle, fast tool change speed
- Fuel consumption is minimal, not easy to turbidity
- The sealing parts are all famous foreign brands with good sealing performance
- All series of axis does not rotate, cylinder operation is more accurate
- Rod adopts special heat treatment process, high hardness and long service life
- Hollow unclamping cylinder must be used with a pressurized punch

### SPEC.

	ø90 x 8ST	ø100 x 13ST	ø110 x 10ST	ø120 x 12ST	ø120 x 14ST
Actuating pressure	4Mpa~9.5Mpa(40kgf /cm <sup>2</sup> ~95kgf/cm <sup>2</sup> )				
Output range	1413kgf~3356kgf	1601kgf~3803kgf	2033kgf~4829kgf	3195kgf~7588kgf	
oil	ISO Vg32 or equivalent anti-wear hydraulic oil				
Temperature range	0~+60°C				

	ø125 x 11ST	ø140 x 10.5ST	ø160 x 13ST
Actuating pressure	4Mpa~9.5Mpa(40kgf /cm <sup>2</sup> ~95kgf/cm <sup>2</sup> )		
Output range	2896kgf~6878kgf	3014kgf~7159kgf	3666kgf~8707kgf
oil	ISO Vg32 or equivalent anti-wear hydraulic oil		
Temperature range	0~+60°C		

Tie-rod Hydraulic Cylinder

Mold Hydraulic Cylinders

Swivel & Clamp Hydraulic Cylinders

Booster Cylinders & Unclamping cylinders

ISO Specifications Cylinders

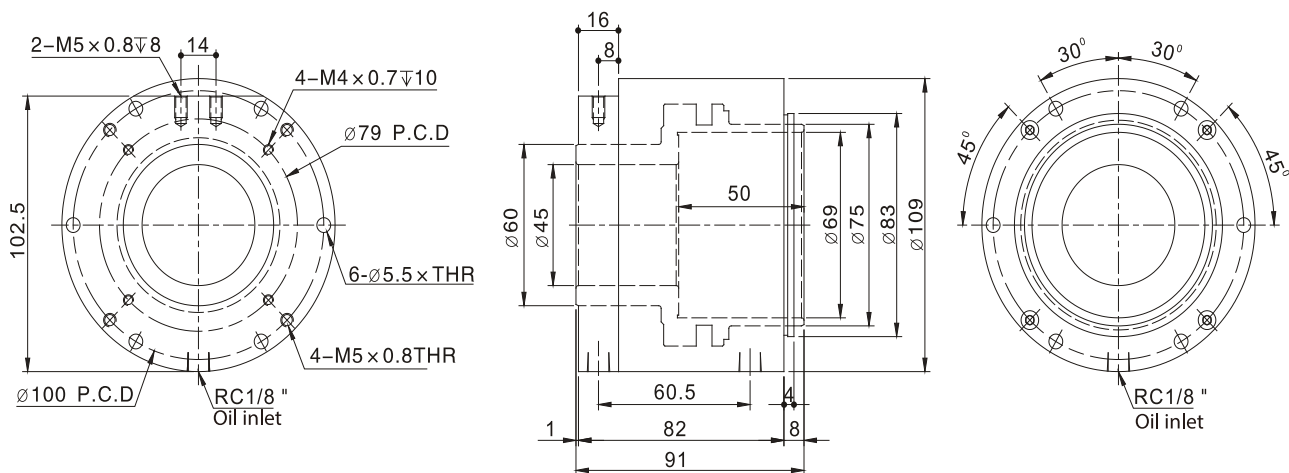
Round Hydraulic Cylinders

Specific Hydraulic Cylinders

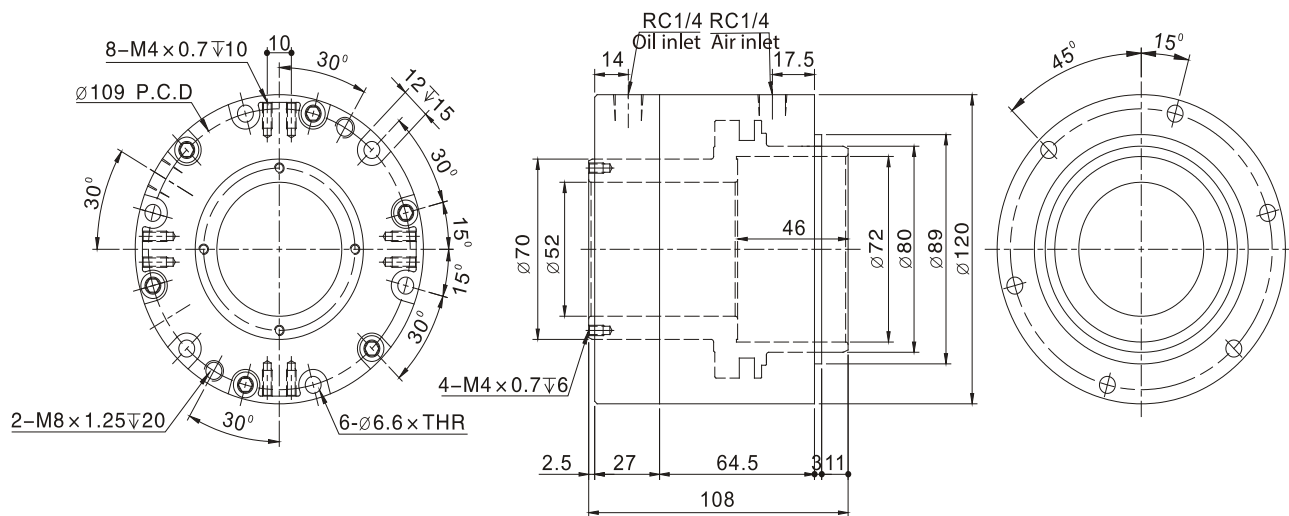
Systems & Fittings

**EXTERNAL DIMENSIONS**

● JUC- $\varnothing 90 \times 8$ ST

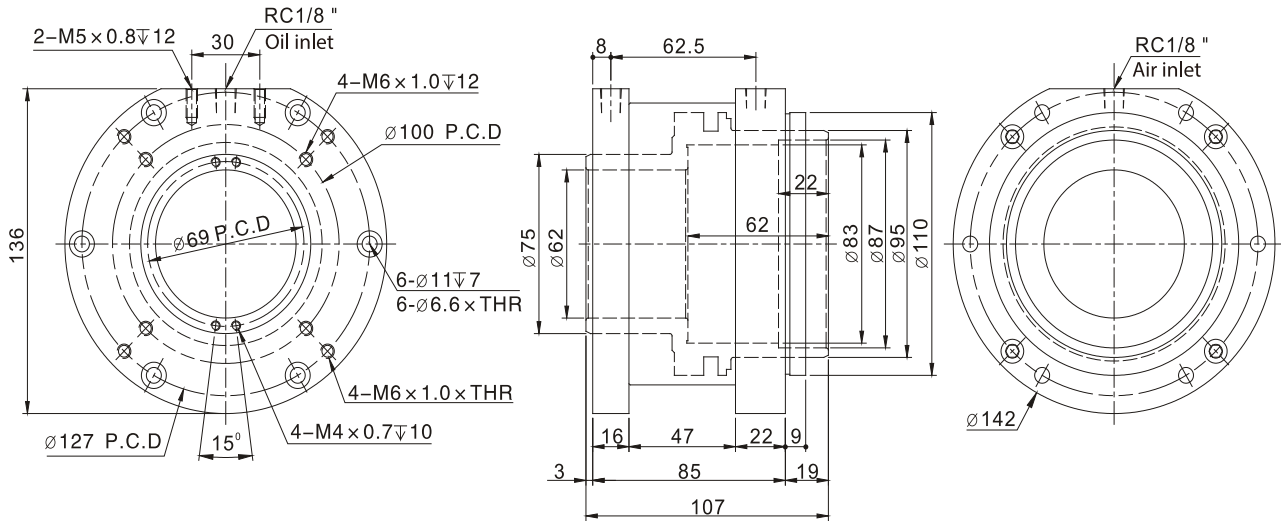


● JUC- $\varnothing 100 \times 13$ ST

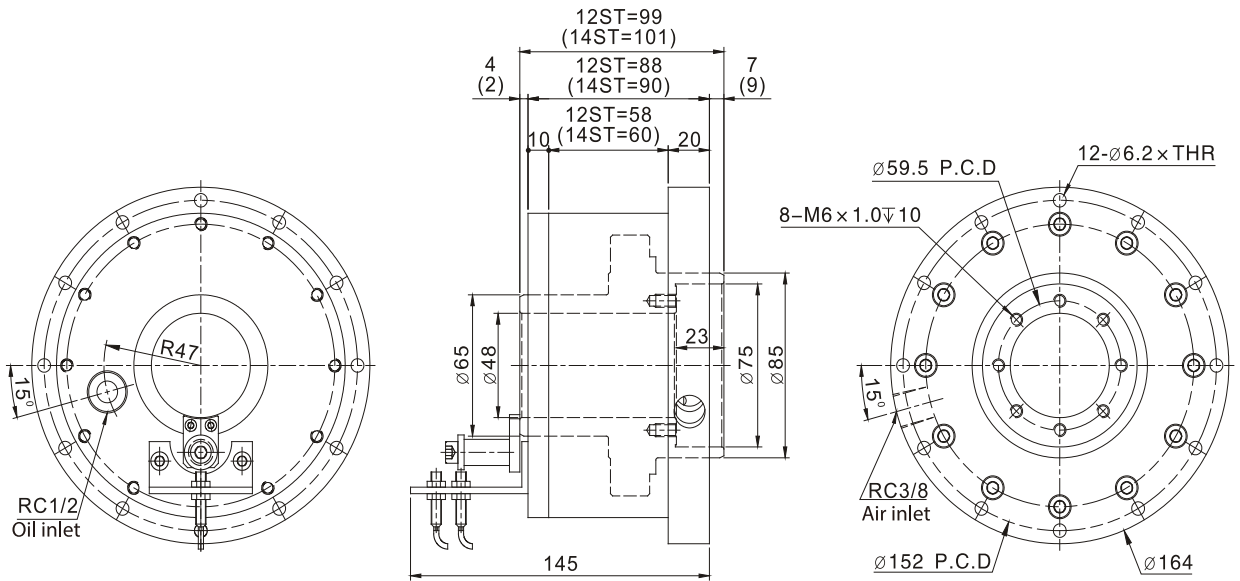


**EXTERNAL DIMENSIONS**

● JUC- $\varnothing 110 \times 10ST$



● JUC- $\varnothing 120 \times 12ST$   
 ● JUC- $\varnothing 120 \times 14ST$



Tie-rod Hydraulic Cylinder

Mold Hydraulic Cylinders

Swivel & Clamp Hydraulic Cylinders

Booster Cylinders & Unclamping cylinders

ISO Specifications Cylinders

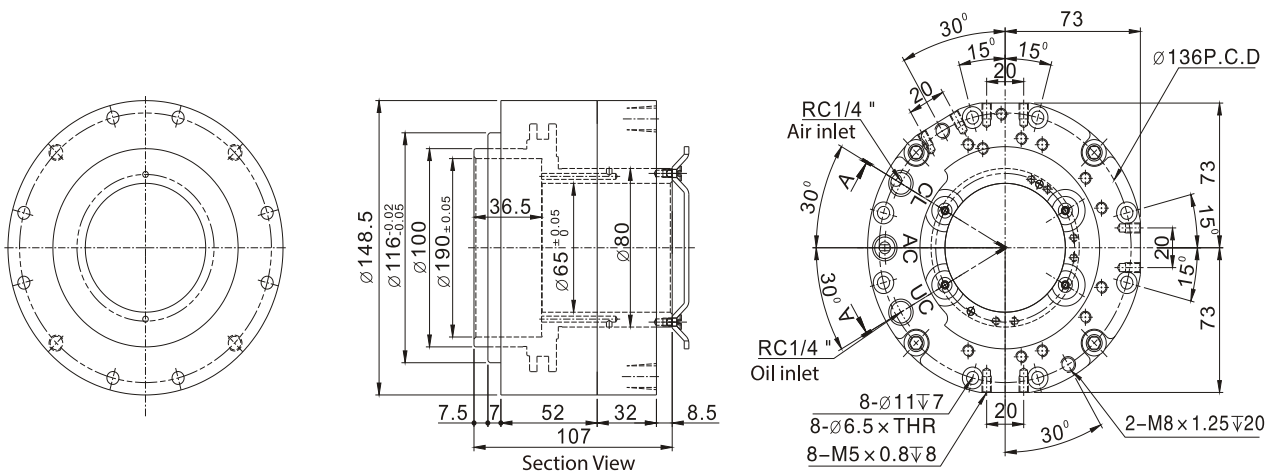
Round Hydraulic Cylinders

Specific Hydraulic Cylinders

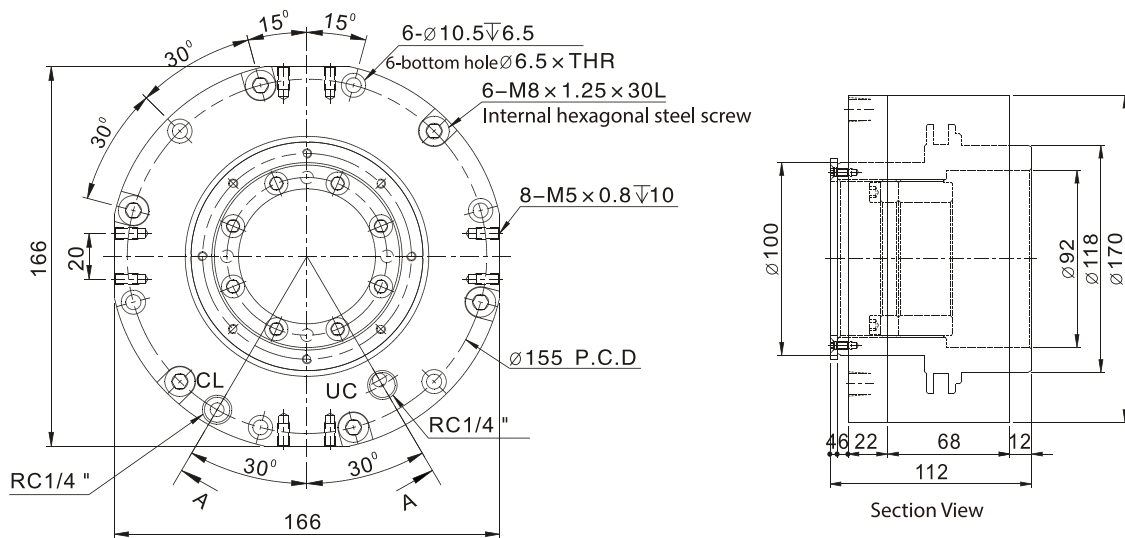
Systems & Fittings

## EXTERNAL DIMENSIONS

### ● JUC- $\varnothing 125 \times 11ST$



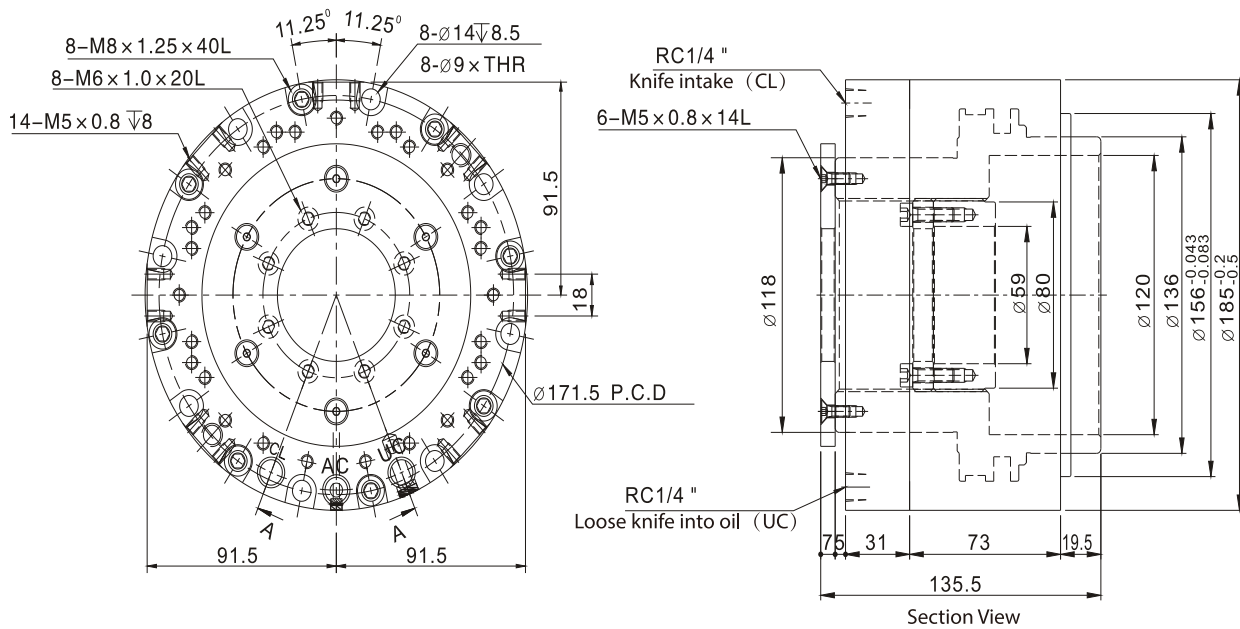
### ● JUC- $\varnothing 140 \times 10.5ST$





**EXTERNAL DIMENSIONS**

● JUC- $\varnothing 160 \times 13ST$



Tie-rod Hydraulic Cylinder

Mold Hydraulic Cylinders

Swivel & Clamp Hydraulic Cylinders

Booster Cylinders & Unclamping cylinders

ISO Specifications Cylinders

Round Hydraulic Cylinders

Specific Hydraulic Cylinders

Systems & Fittings

**INDUCTIVE PROXIMITY SWITCH**

- BES 516-3005



**PROXIMITY SWITCH PARAMETER**

PNP normally open type	
Rated sensing distance $S_n$	0.8mm
Reliable induction distance lie away from $S_a$	0~0.6mm
Supply voltage $U_B$	10~30 V DC
Repeated positioning accuracy R	≤5%
Rated working current $I_e$	100 mA
Switch operating frequency f	3000Hz
Polar reverse protection	yes
Ambient temperature range $T_a$	-25~+70°C
Connection type	2 m PUR cable
Housing material	Stainless steel
The protection level complies with IEC 60529	IP 67