

KBP series



KBP-DI-100 / 80-120

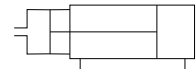


KBP-PP-150 / 125-120

Features

- System converts air to high oil pressure for high power applications.
- High output of air pressure, up to 8~36 times is available and can be integrated with hydraulic equipment.

Symbol



How to Order

KBP - PP 150 / 125 - 120 H - A54 - B10

① Series ② Type ③ Bore size ④ Oil pressure ⑤ Stroke ⑥ Auto switch ⑦ Preloading (PP) Bracket

① Series

KBP	Booster cylinder
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② Type

DI	Direct pressure type
PP	Pre-pressure type

③ Bore size

④ Oil pressure

⑤ Stroke

Output oil capacity

Boosting ratio

Bore size (mm)	Stroke (mm)	Oil pressure (kgf/cm ²)	Oil pressure (MPa)	Output oil capacity (cc)	Boosting ratio
100	120	80	80kgf/cm ² (8MPa)	49cm ³ (cc)	1:16
		55	55kgf/cm ² (5.5MPa)	71cm ³ (cc)	1:11
		40	40kgf/cm ² (4MPa)	97cm ³ (cc)	1:8
150	120	180	180kgf/cm ² (18MPa)	44cm ³ (cc)	1:36
		125	125kgf/cm ² (12.5MPa)	64cm ³ (cc)	1:25
		90	90kgf/cm ² (9MPa)	87cm ³ (cc)	1:18
	200	70	70kgf/cm ² (7MPa)	114cm ³ (cc)	1:14
		180	180kgf/cm ² (18MPa)	83cm ³ (cc)	1:36
		125	125kgf/cm ² (12.5MPa)	120cm ³ (cc)	1:25
180	120	90	90kgf/cm ² (9MPa)	164cm ³ (cc)	1:18
		180	180kgf/cm ² (18MPa)	70cm ³ (cc)	1:36
		125	125kgf/cm ² (12.5MPa)	95cm ³ (cc)	1:25
	200	80	80kgf/cm ² (8MPa)	157cm ³ (cc)	1:16
		180	180kgf/cm ² (18MPa)	126cm ³ (cc)	1:36
		125	125kgf/cm ² (12.5MPa)	172cm ³ (cc)	1:25
300	300	80	80kgf/cm ² (8MPa)	284cm ³ (cc)	1:16
		180	180kgf/cm ² (18MPa)	197cm ³ (cc)	1:36
		125	125kgf/cm ² (12.5MPa)	268cm ³ (cc)	1:25
	120	80	80kgf/cm ² (8MPa)	443cm ³ (cc)	1:16
		180	180kgf/cm ² (18MPa)	180cm ³ (cc)	1:36
		125	125kgf/cm ² (12.5MPa)	260cm ³ (cc)	1:25
200	120	70	70kgf/cm ² (7MPa)	462cm ³ (cc)	1:14
		180	180kgf/cm ² (18MPa)	338cm ³ (cc)	1:36
	200	125	125kgf/cm ² (12.5MPa)	486cm ³ (cc)	1:25
		70	70kgf/cm ² (7MPa)	865cm ³ (cc)	1:14

* For Ø180, Ø300 only pre-pressure type is available.

* Standard type with aluminium diecast cover and U packing.

* For AC4C made cover and Quardring packing, consult KCC.

⑥ Auto switch

Nil	None
H	With built-in magnet

* Built-in magnet is inapplicable to Ø300 type.

* Auto switch is attaching on tie rod of pneumatic cylinder.

* It is recommended to adopt the KP140HB type with the booster cylinder seal for the hydraulic cylinder for KBP.

* In case of using hydro converter (CCTS) Ø160 for KBP-PP preload booster, it is necessary to use the bracket.

* The middle stroke (between 120 ~ 200st, 200 ~ 300st) of the high-pressure tube of booster cylinder is applied as a high-pressure tube of long stroke.

Ex) 250st: 300st high-pressure tube (see dimension table)

⑦ Auto switch

Reed A/S	Model	Reed A/S	Model	Solid state A/S	Model	Solid state A/S	Model
A54	D-A54K	A90(V)	D-A90(V)K	F59	D-F59K	F9N	D-F9N(V)K
A56	D-A56K	A93(V)	D-A93(V)K	F5P	D-F5PK	F9P	D-F9P(V)K
A64	D-A64K	A96(V)	D-A96(V)K	J59	D-J59K	F9B	D-F9B(V)K
				J51	D-J51K		

* Only for auto switch attached type.

* Refer to Auto Switch Catalogue for more information.

⑧ Preloading (PP) Bracket

B06	Ø63
B10	Ø100, Ø140, Ø160 Use

* It is applied when used in combination with booster cylinder preload and air-hydro converter.

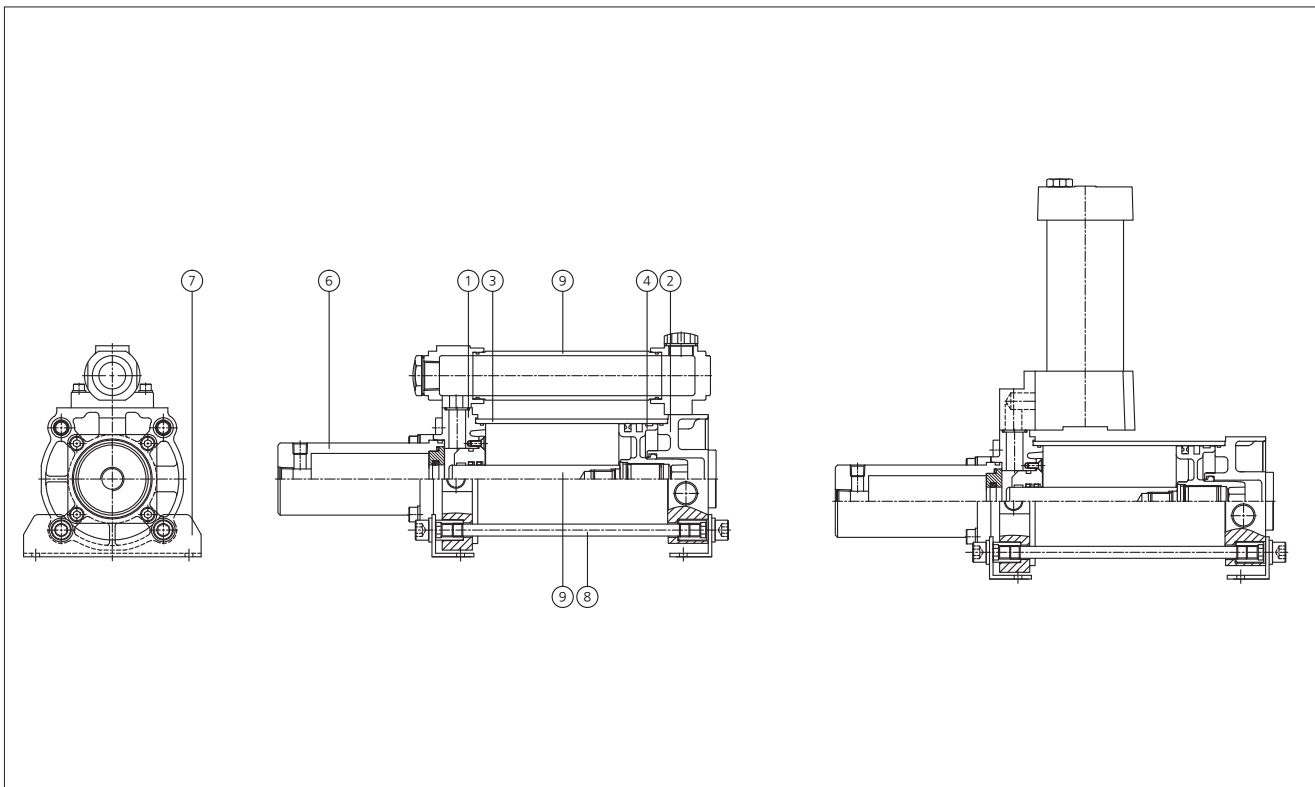
Specifications

Working oil		Hydraulic fluid
Ambient & fluid temperature		5~60 °C
Air pressure	Working fluid	Air
	Lubrication	Not required (However, when lubricating, use turbine oil ISO VG32 or equivalent.)
	Operating pressure	0~7kgf/cm ² (0~0.7MPa)

⚠ Precautions

1. The booster cylinder must be installed higher than the hydraulic actuator and pipes to prevent air release and reverse flow of hydraulic fluid.
2. With a slight increase in pressure by mere 0.1kgf/cm² at the supply side, the output will multiply depending on the sending ratio. Care must be taken.
3. If rapid speed is required, the pipe size must be large enough for the purpose, and a quick exhaust valve should be installed.
4. A filter and regulator should be installed before the air valve to ensure easy pressure adjustment and clean air supply.
5. The discharge volume of the booster cylinder should be the same as the actual capacity of the cylinder.

Structure

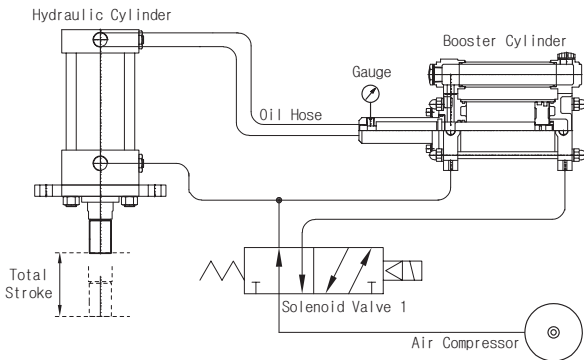


Part no.	Parts	Material	Remark
1	Rod Cover	Aluminium Alloy	-
2	Head Cover	Aluminium Alloy	-
3	Cylinder Tube	Aluminium	-
4	Piston	Aluminium Alloy	-
5	Rod	Carbon Steel	Hard Chromium Plating
6	High-pressure Tube	Carbon Steel	-
7	LB Ass'y	Zinc Plate	-
8	Tie Rod	Carbon Steel	-
9	Oil Tank	Aluminium	-

Circuit

Direct Compressed Type

To be used if the discharge volume is being specified.

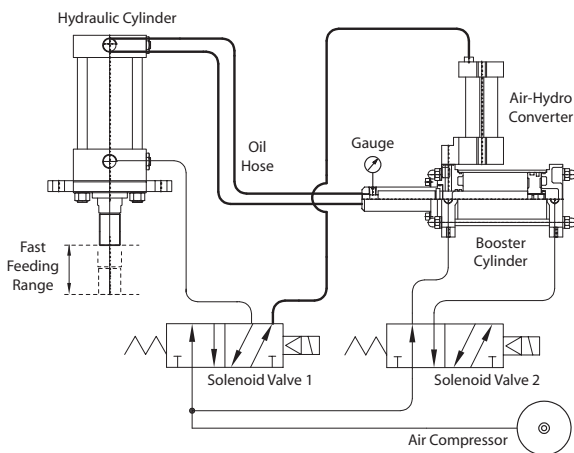


Pre-compressed Type

If the stroke of the hydraulic actuator is long, or large flow is required, the pre-compressed type is used to enable rapid movement to the pressure section by air, and then to pressurize using the discharge volume.

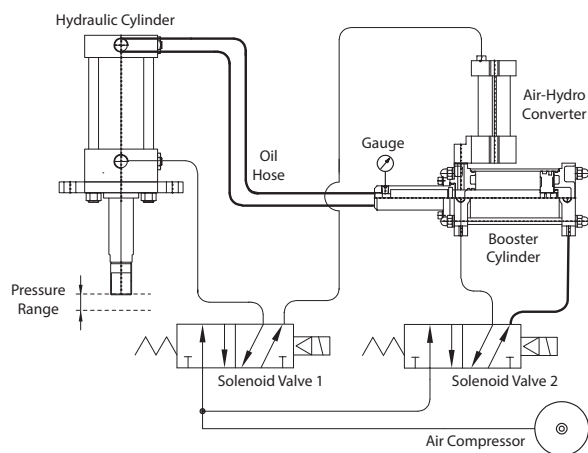
1. Rapid Feed Stroke

Cylinder rod is moved to a certain distance by the hydraulic pressure which has the same pressure as the air pressure pass through solenoid valve 1 when solenoid is ON.



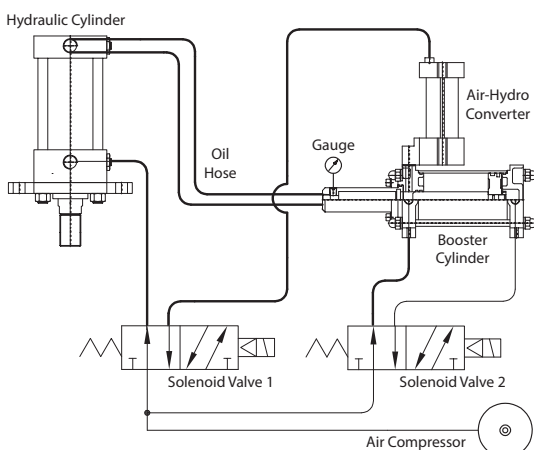
2. Pressure Stroke

The booster piston is pressurized by the solenoid valve 2 generating high hydraulic pressure required in various processes (clamping, press and etc).



3. Return Stroke

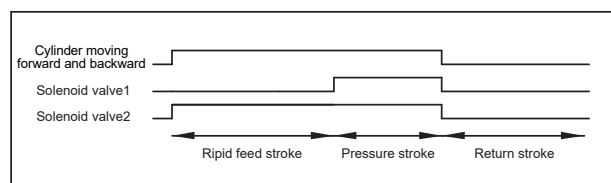
Booster Piston and the cylinder pistons are returned by the solenoid valve 1 and 2.



Preload operation sequence

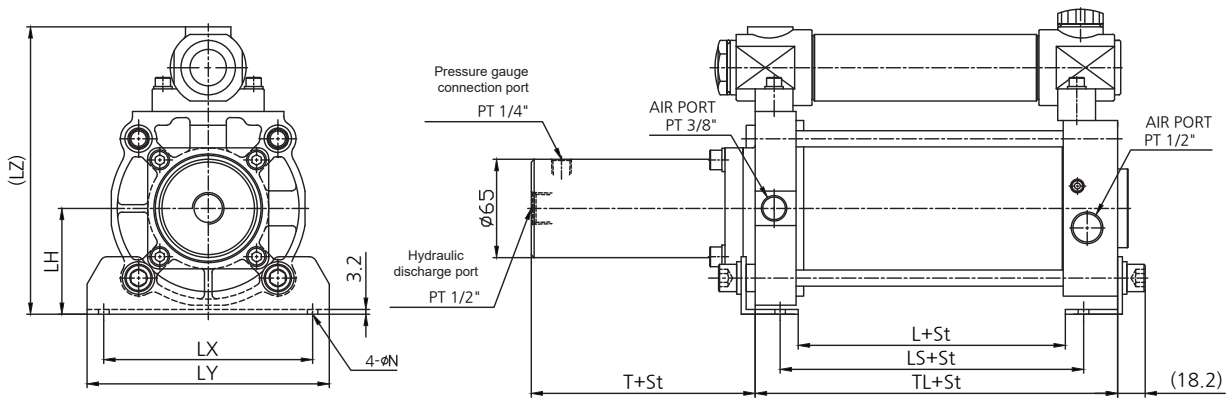
Valve	Initial State	Rapid feed	Pressure	Return
Solenoid valve1	OFF	ON	ON	OFF
Solenoid valve2	OFF	OFF	ON	OFF

TIME CHART

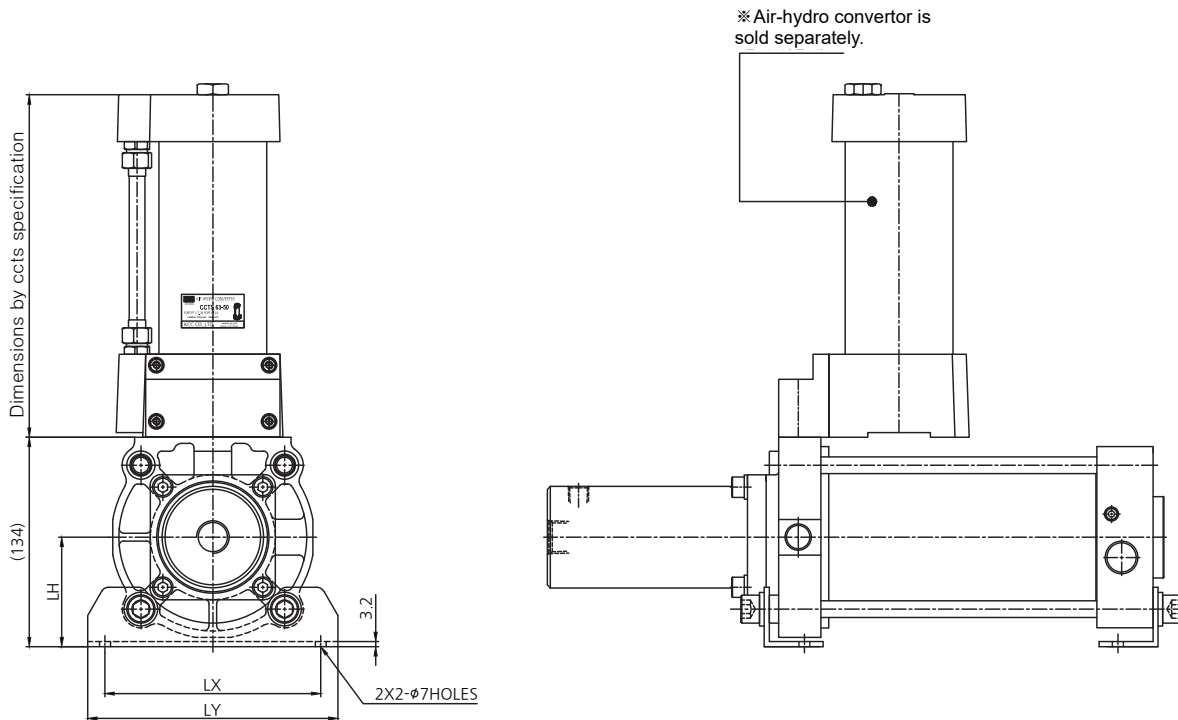


Dimensions-Ø100

Direct Pressure (KBP-DI)



Pre-Pressure (KBP-PP)



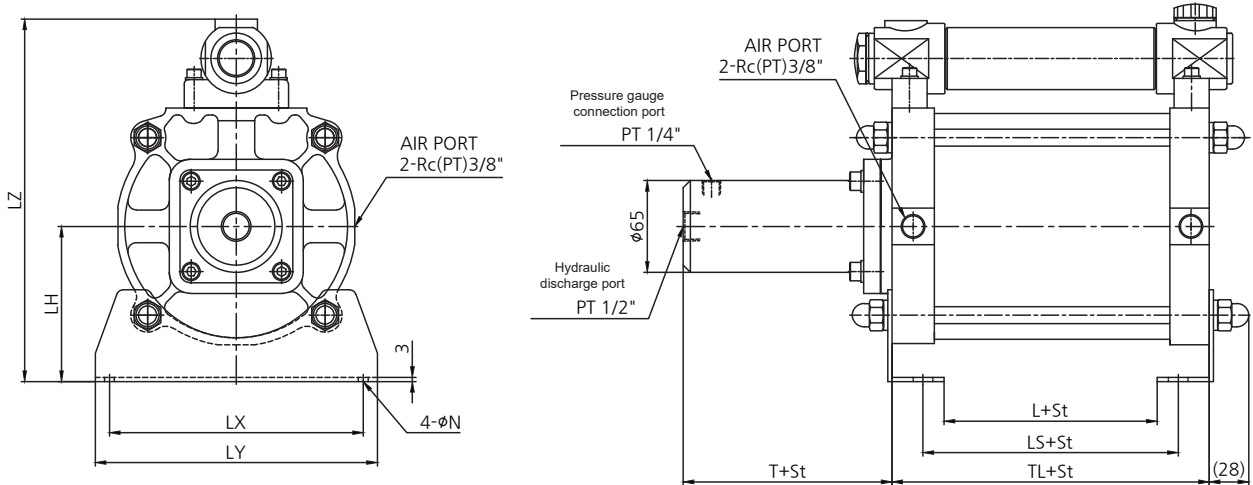
Unit : mm

Bore size	ØD	L	LH	LS	LX	LY	LZ	N	T	TL
Ø100	Ø100	56	70	80	138	160	(197)	Ø6.5	28	119

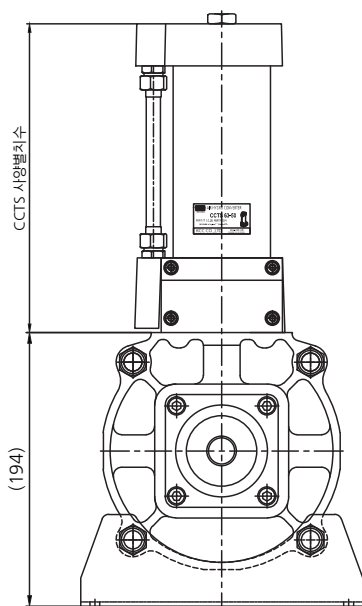
- * Standard stroke: 120mm
- * The port size on the rod side and head side is different.
- * The application of a high-pressure tube in the middle stroke (between 120 ~ 200) is applied to a 200mm standard. Other dimensions are the same as the above drawing.
- Ex) Overall length of KBP-PP100-80-150: 28+200+119+150=497mm (applied high pressure tube 200mm)

Dimensions-Ø150

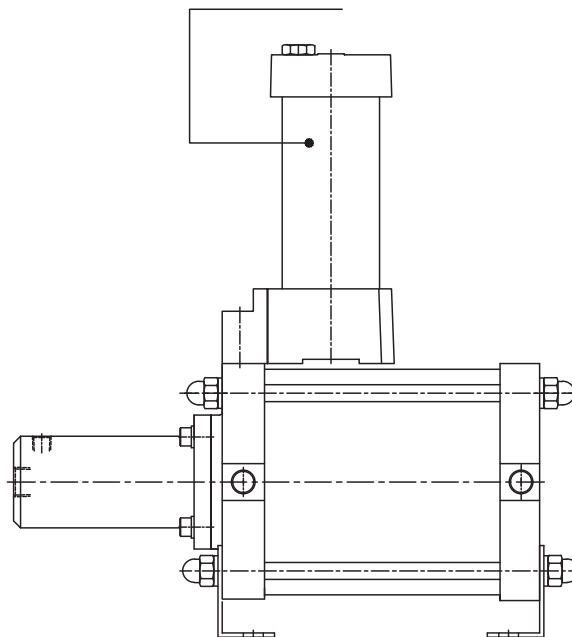
Direct Pressure (KBP-DI)



Pre-Pressure (KBP-PP)



※ Air-hydro convertor is sold separately.



Unit : mm

Bore size	ØD	L	LH	LS	LX	LY	LZ	N	T	TL
Ø150	Ø150	31	110	61	180	200	(258)	Ø7	28	105

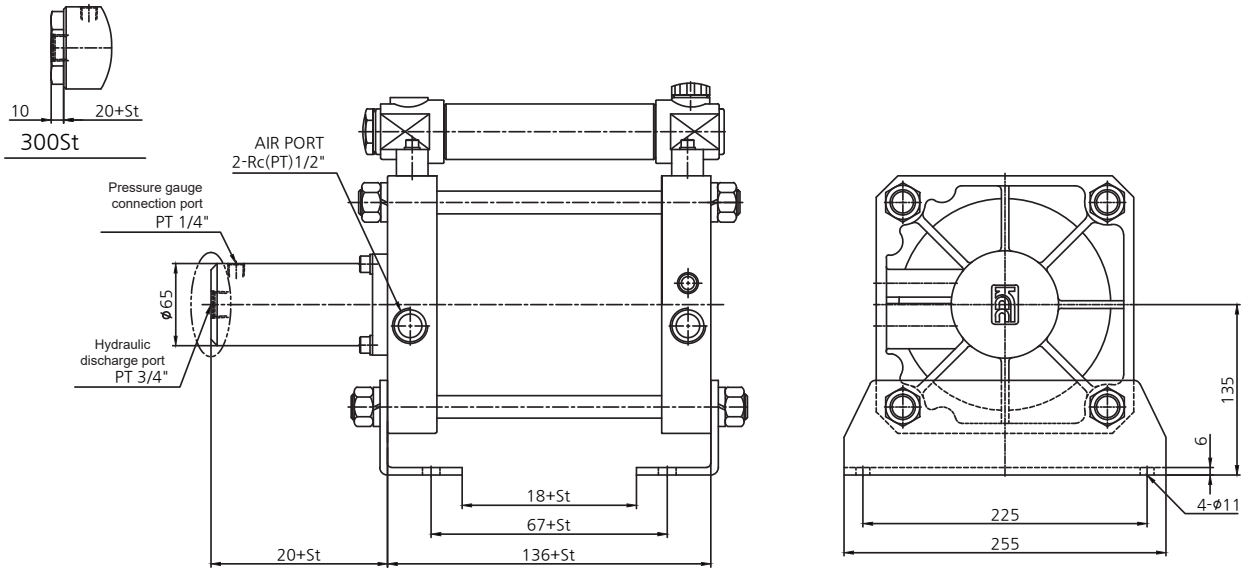
※ Standard stroke: 120mm, 135mm, 200mm

※ The application of a high-pressure tube in the middle stroke (between 120 ~ 200) is applied to a 200mm standard. Other dimensions are the same as the above drawing.

Ex) Overall length of KPB-PP150-180-150: 28 + 200 + 105 + 150 = 483mm (applied high pressure tube 200mm)

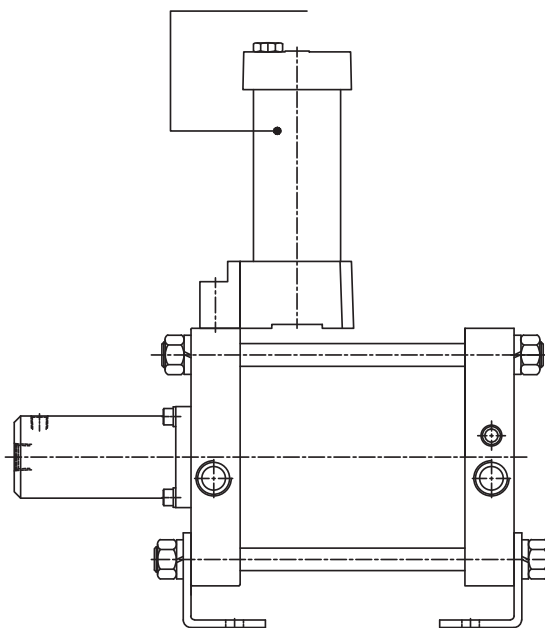
Dimensions-Ø180 Pre-pressure booster

Direct Pressure (KBP-DI)



Pre-Pressure (KBP-PP)

※ Air-hydro convertor is sold separately.

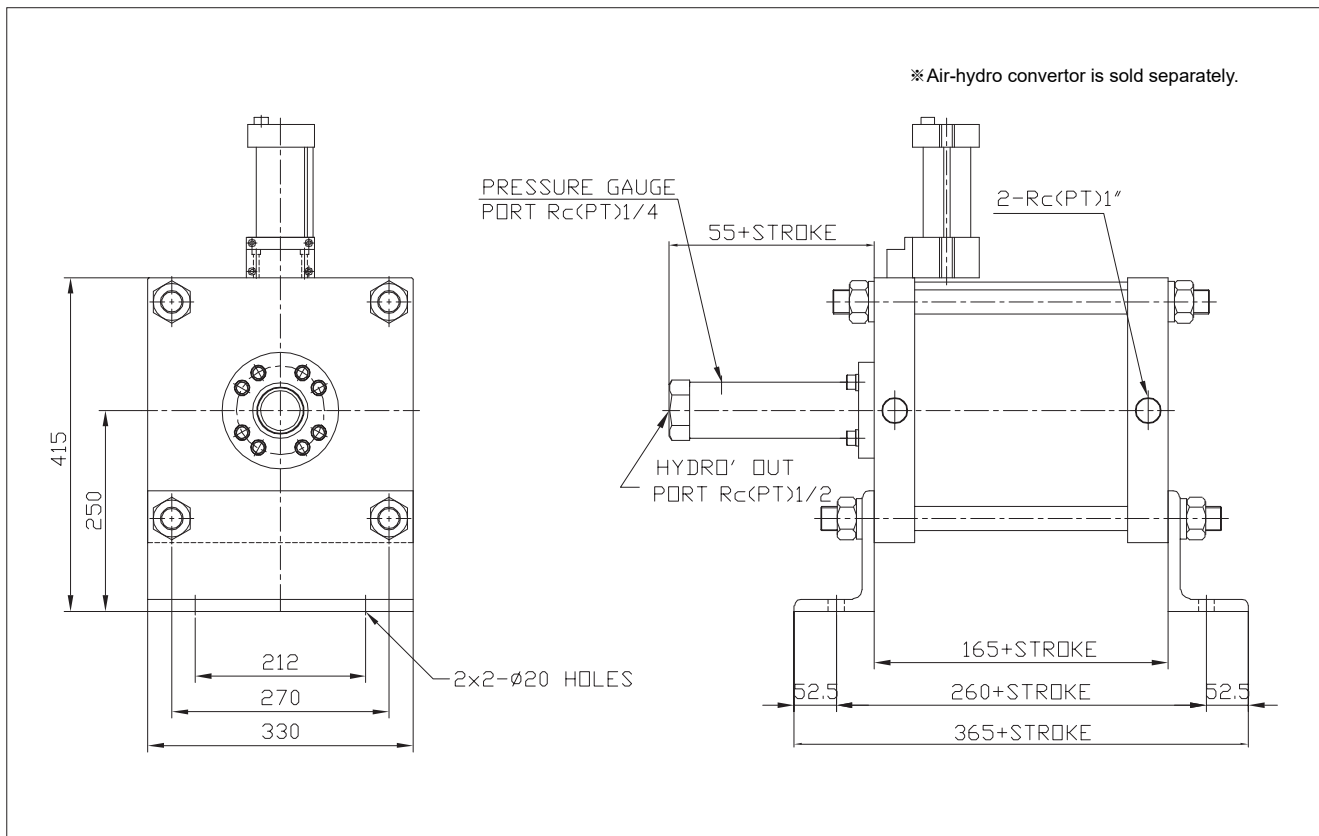


※ Standard stroke: 120mm, 135mm, 200mm, 300mm

※ The application of high-pressure tube in the middle stroke (120 ~ 200, 200 ~ 300) is applied to 200mm and 300mm as standard. Other dimensions are the same as the above drawing.

Example) Overall length of KBP-PP180-180-250: $30 + 300 + 136 + 250 = 716\text{mm}$ (High pressure tube 300mm applied)

Dimensions-Ø300 Pre-pressure booster



* Please check the delivery date when ordering because it is made to order specifications.