

KBP series



KBP-DI-100 / 80-120

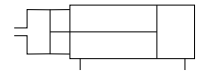


KBP-PP-150 / 125-120

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**

① ② ③ ④ ⑤ ⑥ ⑦

① Series

| | |
|-----|------------------|
| KBP | Booster cylinder |
|-----|------------------|

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 | Bore diameter | Oil pressure | | Stroke | Stroke | Stroke | Output oil capacity | | Boosting ratio |
|-----------|------------------------------|--------------|----------------------------------|-------------------------|--------|--------|---------------------------|---------------------|----------------|
| | | Oil pressure | Oil pressure | | | | Output oil capacity | Output oil capacity | |
| 100 | Ø100 | 80 | 80kgf/cm ² (8MPa) | 120 | 120mm | | 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 | Ø150 | 180 | 180kgf/cm ² (18MPa) | 120 | 120mm | | 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 | |
| | | 70 | 70kgf/cm ² (7MPa) | 200 | 200mm | | 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 | Ø180 | 90 | 90kgf/cm ² (9MPa) | 300 | 300mm | | 164cm ³ (cc) | 1:18 | |
| | | 180 | 180kgf/cm ² (18MPa) | | | | 188.6cm ³ (cc) | 1:36 | |
| | | 125 | 125kgf/cm ² (12.5MPa) | 200 | 200mm | | 271.6cm ³ (cc) | 1:25 | |
| | | 80 | 80kgf/cm ² (8MPa) | | | | 424.4cm ³ (cc) | 1:16 | |
| | | 180 | 180kgf/cm ² (18MPa) | 120 | 120mm | | 118.0cm ³ (cc) | 1:36 | |
| | | 125 | 125kgf/cm ² (12.5MPa) | | | | 169.9cm ³ (cc) | 1:25 | |
| | | 80 | 80kgf/cm ² (8MPa) | 120 | 120mm | | 265.5cm ³ (cc) | 1:16 | |
| | | 180 | 180kgf/cm ² (18MPa) | | | | 61.5cm ³ (cc) | 1:36 | |
| | | 125 | 125kgf/cm ² (12.5MPa) | 200 | 200mm | | 88.5cm ³ (cc) | 1:25 | |
| | | 80 | 80kgf/cm ² (8MPa) | | | | 138.3cm ³ (cc) | 1:16 | |
| 300 | Ø300 | 180 | 180kgf/cm ² (18MPa) | 120 | 120mm | | 180cm ³ (cc) | 1:36 | |
| | | 125 | 125kgf/cm ² (12.5MPa) | | | | 260cm ³ (cc) | 1:25 | |
| | | 70 | 70kgf/cm ² (7MPa) | 200 | 200mm | | 462cm ³ (cc) | 1:14 | |
| | | 180 | 180kgf/cm ² (18MPa) | | | | 338cm ³ (cc) | 1:36 | |
| | | 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.

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

* Standard type with aluminium diecast cover and U packing.

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.

* Select a hydraulic cylinder(KP70/140HC) with piston compact seal, without cushion for booster.

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 |

* Only for auto switch attached type.

* Refer to Auto Switch Catalogue for more information.

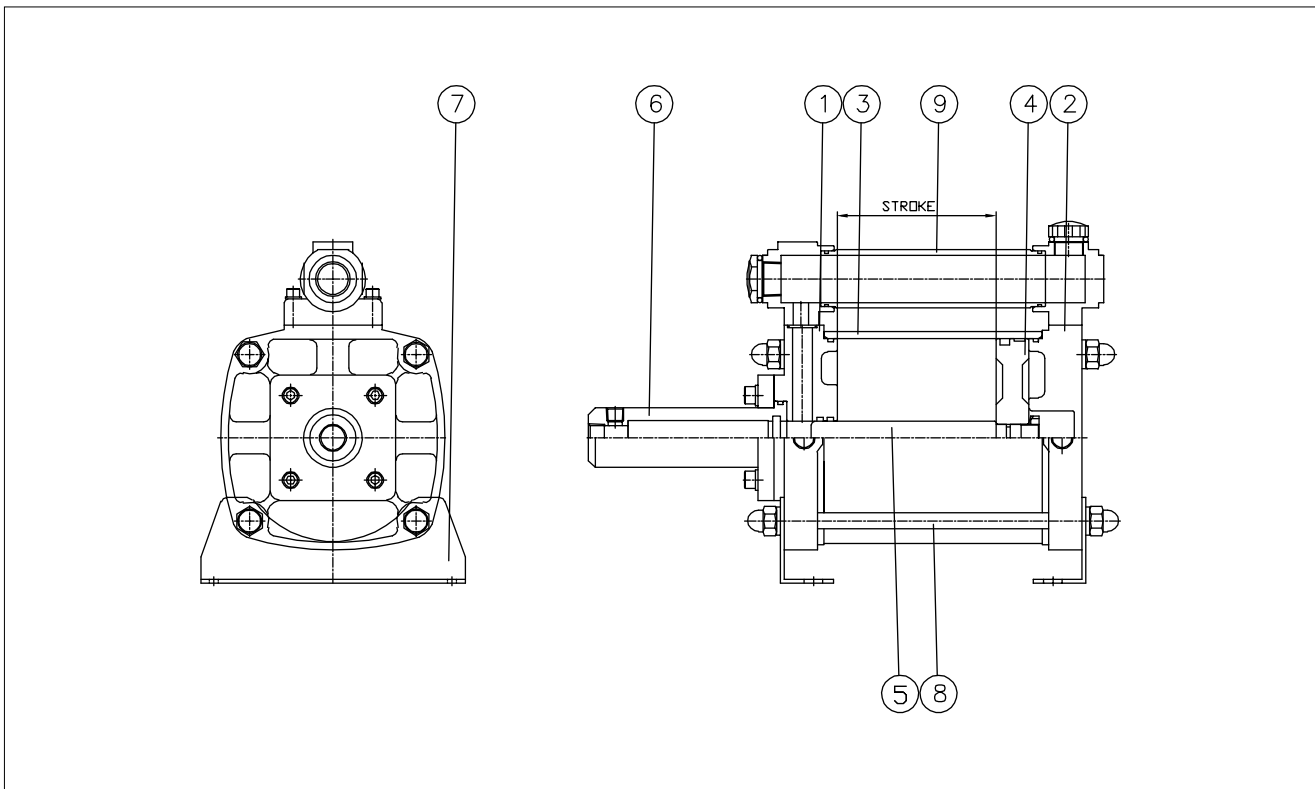
Specifications

| | | |
|-----------------------------|--------------------|-----------------------------------|
| Working oil | | Petroleum based fluid |
| Ambient & fluid temperature | | 5~60 °C |
| Air pressure | Working fluid | Air |
| | Lubrication | Not required |
| | 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

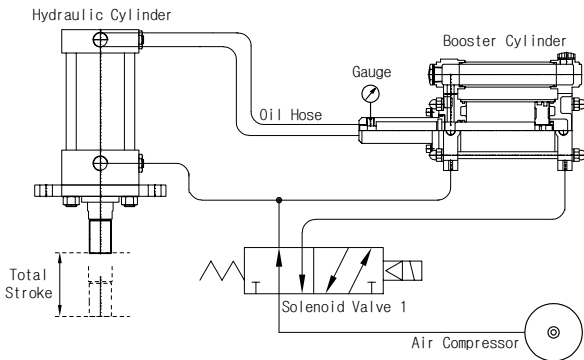


| Part no. | Parts | Material | Remark |
|----------|---------------|-----------------|-----------------------|
| 1 | Rod Cover | Aluminium Alloy | - |
| 2 | Head Cover | Aluminium Alloy | - |
| 3 | Cylinder Tube | Aluminium | - |
| 4 | Piston | Aluminium Alloy | - |
| 5 | Rod | Carbon Steel | Hard Chromium Plating |
| 6 | 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.

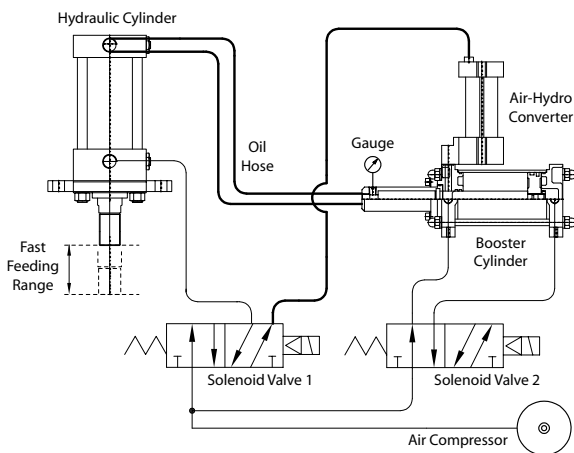


Pre-compressed Type

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.

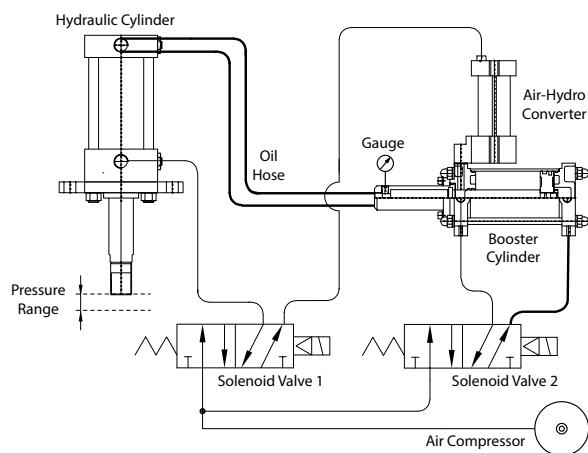
1. Rapid Feed Stroke

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.



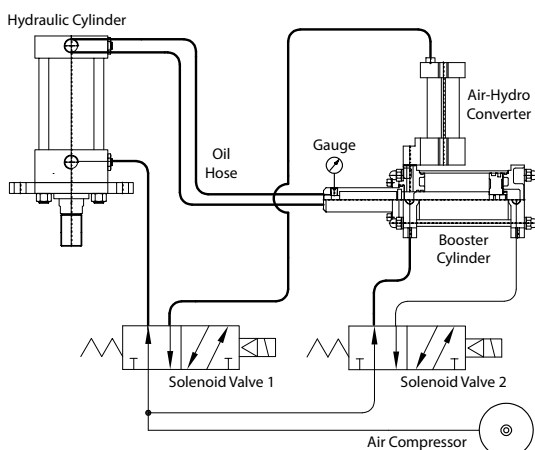
2. Pressure Stroke

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

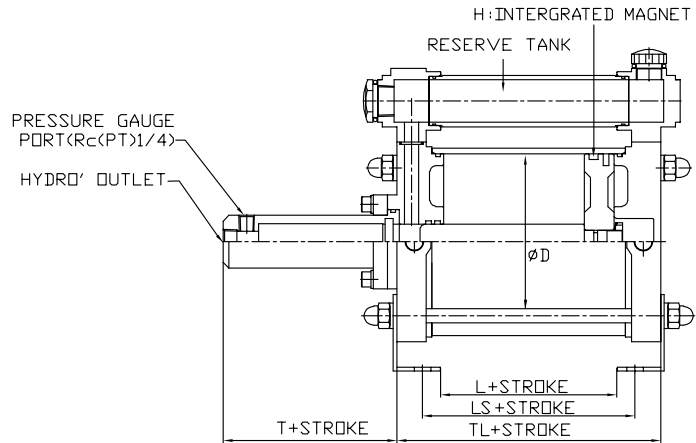
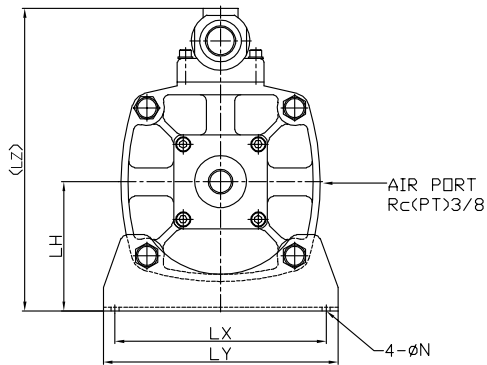
Booster Piston and the cylinder pistons are returned by the solenoid valve 1 and 2.



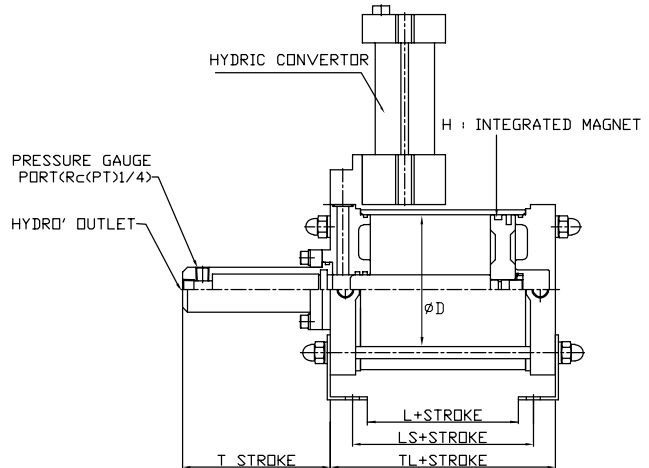
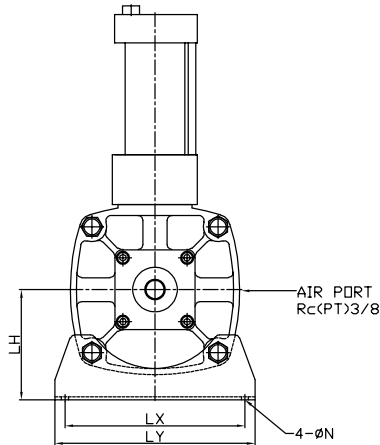


Dimensions-Ø100, Ø150

Direct Pressure (KBP-DI)



Pre-Pressure (KBP-PP)

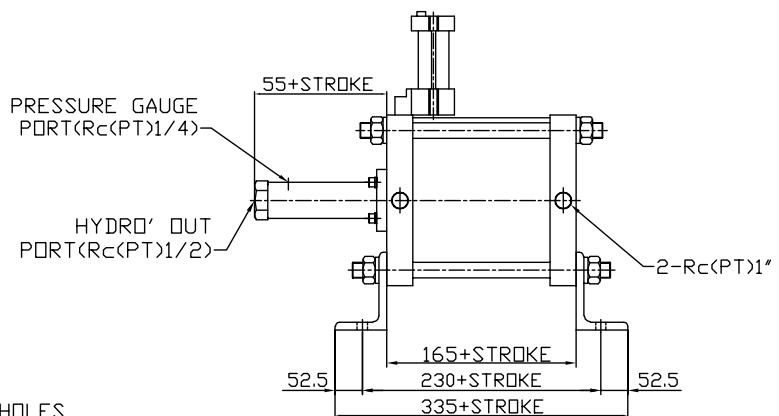
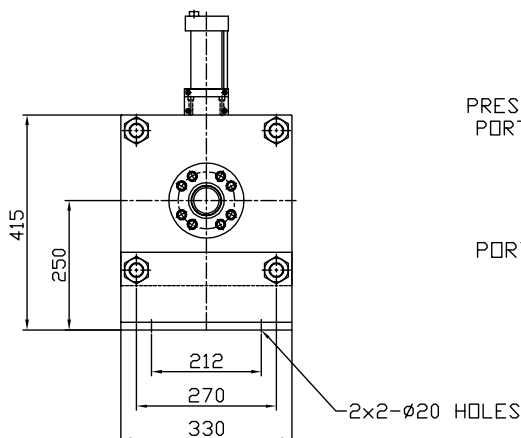


※ Air-hydro convertor is sold separately.

Unit : mm

| Bore size | ØD | L | LH | LS | LX | LY | LZ | N | T | TL |
|-----------|------|----|-----|----|-----|-----|-------|------|----|-----|
| Ø100 | Ø100 | 55 | 70 | 80 | 138 | 160 | (197) | Ø6.5 | 28 | 105 |
| Ø150 | Ø150 | 31 | 110 | 61 | 180 | 200 | (258) | Ø7 | 28 | 105 |

Dimensions-Ø300 Pre-Pressure



※ Air-hydro convertor is sold separately.

Pneumatic
Cylinder

Reference
Data

AJP

KGUA

ACP

ACD

ACS2

ACS3

ACS4

ACS5

ACR

ACM

ACL

ACX

KLC

KLCS

AF, ADF

AFG

FM, FMD

Custom-
Made
Rod Ends

Custom-
Made
Tie Rods

KBP

CCTS