

CCTS series



Features

- It converts air pressure to equivalent hydraulic pressure. The hydraulic pressure is used to operate an actuator.
- It solves the sticking and slipping problems with low speed operations.

Symbol



How to Order

CCTS - 63 - 100

①

②

③

① Series

CCTS	Air-hydro converter
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③ Stroke

50, 100, 150, 200, 250, 300, 400, 450, 500, 600, 700, 800

※ Contact us for other stroke.

② Bore size

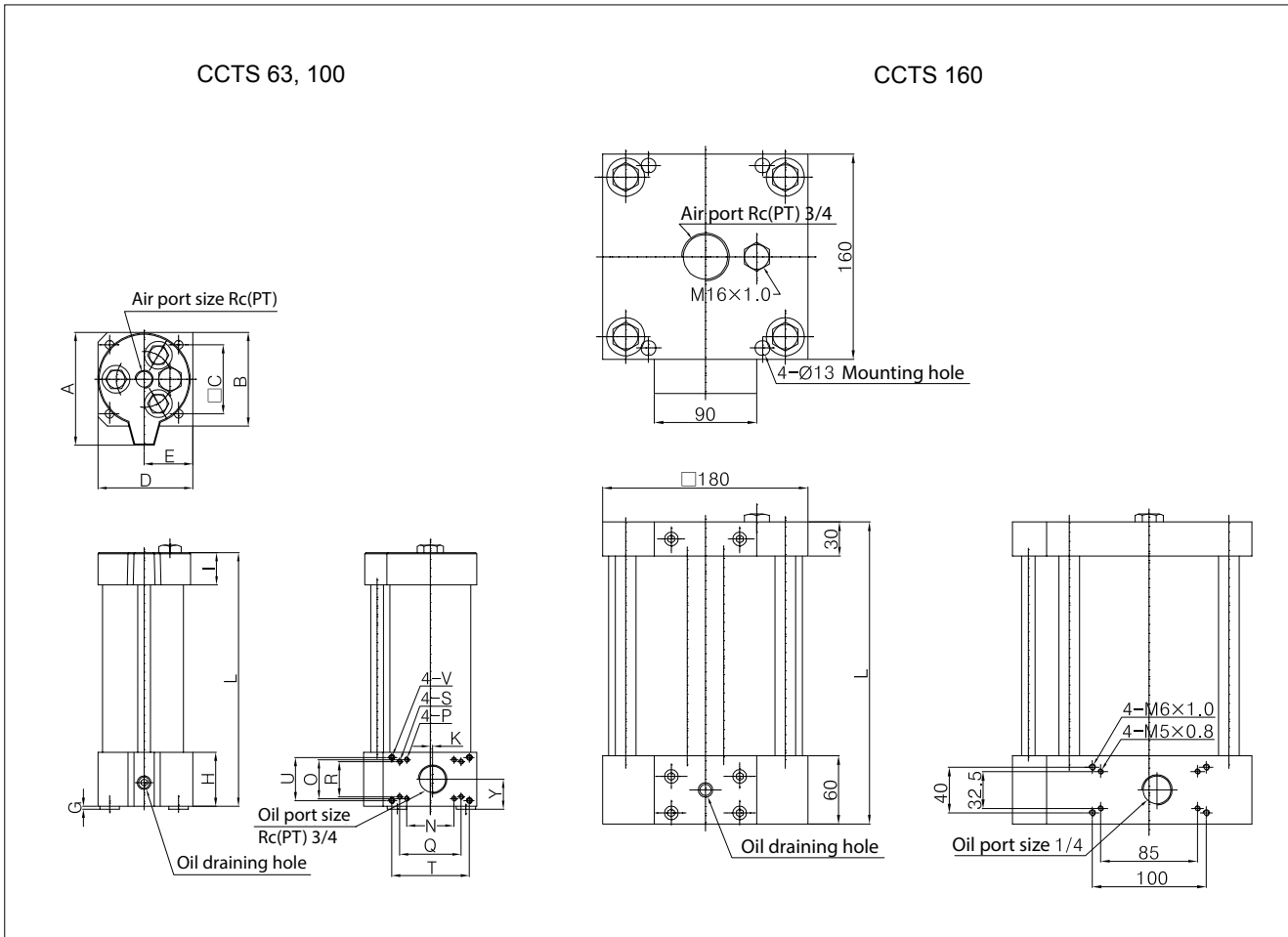
Bore size	Converter nominal size (mm)	Air port size	Oil port size
63	Ø63	Rc(PT)3/8	Rc(PT)3/4
100	Ø100	Rc(PT)1/2	Rc(PT)3/4
160	Ø160	Rc(PT)3/4	Rc(PT)3/4

Specifications

Fluid	Turbine Oil (40~100mm ² /S)
Proof pressure	10.5kgf/cm ² (1.05MPa)
Operating pressure	0~7kgf/cm ² (0~0.7MPa)
Ambient & fluid temperature	5 ~ 50 °C

Converter nominal size (mm)	Standard effective oil level stroke (mm)											Limited flow ℓ/min
	50	100	150	200	250	300	400	500	600	700	800	
Ø63	150	300	450	600	740	890	1190	1480	1780	-	-	36
Ø100	370	750	1120	1510	1870	2260	3010	3770	4520	-	-	88
Ø160	-	1830	-	3660	-	5490	7320	9150	10980	12810	14640	217

Dimensions



Unit : mm

Type	Air port	Oil port	A	B	C	4-ØM	D	E	F	G	H	I
Ø63	Rc(PT)3/8	Rc(PT)3/4	105	87	64	8.5	88	45	86	3	53	30
Ø100	Rc(PT)1/2	Rc(PT)3/4	152	127	95.5	13	136	72	130	7	63	36

Type	J	K	N	O	4-P	Q	R	4-S	T	U	4-V	Y
Ø63	7	2	72	36	M5×0.8	-	-	-	-	-	-	28
Ø100	7	8	72	36	M5×0.8	85	32.5	M5×0.8	100	40	M6×1.0	35

L	Stroke	50	100	150	200	250	300	400	500	600	700	800
	Ø63	245	295	345	395	445	495	595	695	795	-	-
Ø100	255	305	355	405	455	505	605	705	805	-	-	
Ø160	-	272	-	412	-	552	662	802	922	1042	1152	

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

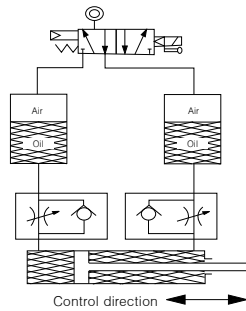
KBP

CCTS

Application Circuit

Key points in applying circuit design

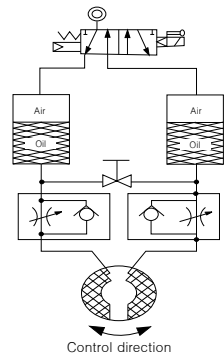
- Dual circuit as the standard circuit
A converter is fitted at the rod side and at the head side of cylinder each, to prevent air inflow on occurrence of leak at the cylinder piston packing, and this is applied as the standard circuit.
- Meter-out circuit control
The assembly will control the oil that is returned from a cylinder to a converter.
- Flow Rate Setup
Select the pipe, nipples and assembly to satisfy the required flow.
- Cautions in cylinder selection
The cylinder must be of the low pressure type. (G or L type)
There is a magnet integrated type too. (Switch is sold separately)



1) Dual Speed Control Circuit

The standard covalence and transformation circuits are used, and both directions of the cylinder are controlled.

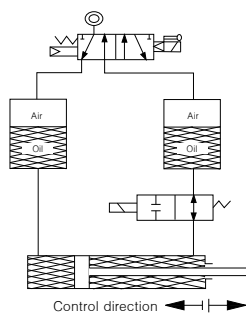
- Application
 - Feed at low or constant velocity
 - Cutting motion of machine tools
 - Valve open/close
 - Vertically moving load
 - Industrial machinery
 - Woodworking machine and etc



2) Rotary Cylinder Circuit

The Rotary Cylinder Circuit controls speed of the rotary cylinders.
The foregoing cylinder is added to a rotary cylinder to enable various circuit configurations.
A connection valve is installed to compensate the leakage inside the rotary cylinder.

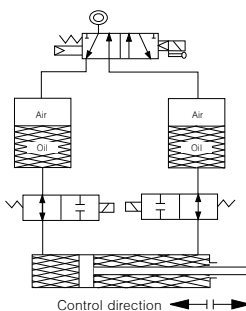
- Application
 - Industrial robots
 - Conveyor
 - Paint equipment
 - Valve open/close
 - Turntable



3) Intermediate Stop Circuit

This is used for reliable intermediate stopping.

- Application
 - Spot welding machine
 - Machine tool
 - Valve open/close



4) Locking Circuit

This is used for intermediate stopping in forward and reverse movements. Even the pneumatic source is blocked, this circuit ensures a reliable locking.

- Application
 - Valve open/close
 - Vertical moving load
 - Welding machine

Application Circuit

Pneumatic
Cylinder

Reference
Data

AJP

KGUA

ACP

ACD

ACS2

ACS3

ACS4

ACS5

ACR

ACM

ACL

ACX

KLC

KLCS

AF, ADF

AFG

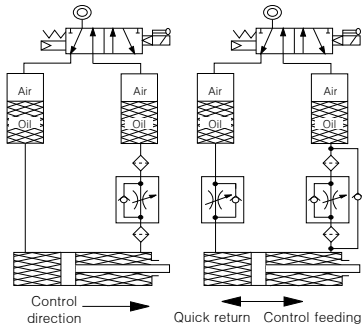
FM, FMD

Custom-
Made
Rod Ends

Custom-
Made
Tie Rods

KBP

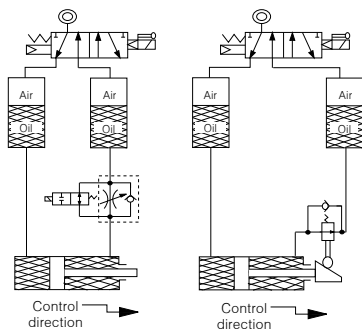
CCTS



5) Low Speed Stable Circuit

This is an example of 5~10 μ m filters being fitted in front and rear of a throttle valve in order to facilitate stable movement at low speed and to prevent any adverse effect of foreign materials in the hydraulic fluid. The throttle valve should be in V-groove shape. There is a case where hydraulic fluid of high viscosity is stably used at 10mm/min. If the cylinder speed is less than 40mm/min, use this control circuit.

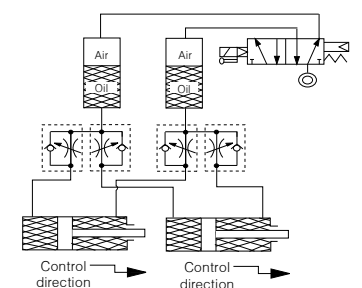
- Application
- Cutting motion of machine tool
- Medical device
- Feed system in industrial machinery
- Camera processing machine
- Semi-conductor manufacturing equipment
- Testing devices



6) 2 Stage-Speed Control Circuit

The circuit for 2 stage-speed transmission for rapid feed and cutting feed, enables a step feed, multiple program-transmissions when fitted with solenoid and throttle valves, and absorbing of impact during switching when fitted with mechanical valves.

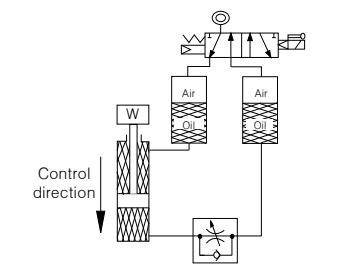
- Application
- Cutting feed of machine tool
- Butterfly valve open/close
- cushioning device



7) Synchronising Circuit

The synchronising circuit is used to synchronise multiple cylinders. If the cylinder rods are connected, synchronising is satisfactory; if they are not connected, synchronising is poor after the air valve is being switched. The cushion packing must be removed with this circuit.

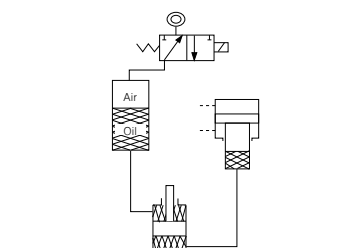
- Application
- Vertical table feed
- Arm synchronising
- Lifter
- Extruder



8) Impact Prevention Circuit

This is used for shock absorbers and on the spot where impact is being made by falling weights.

- Application
- Lifter
- Conveyor
- Packing machine
- Dental lab equipment



9) Auxiliary Circuit for Booster

This is used for RAM return in air-hydro boosters.

- Application
- Dental lab equipment
- Mold