

# **PASCAL<sup>®</sup>**

# **CLUTCH BRAKE** MODEL **PCR**

**Pneumatic Actuated Combination  
Clutch Brake**



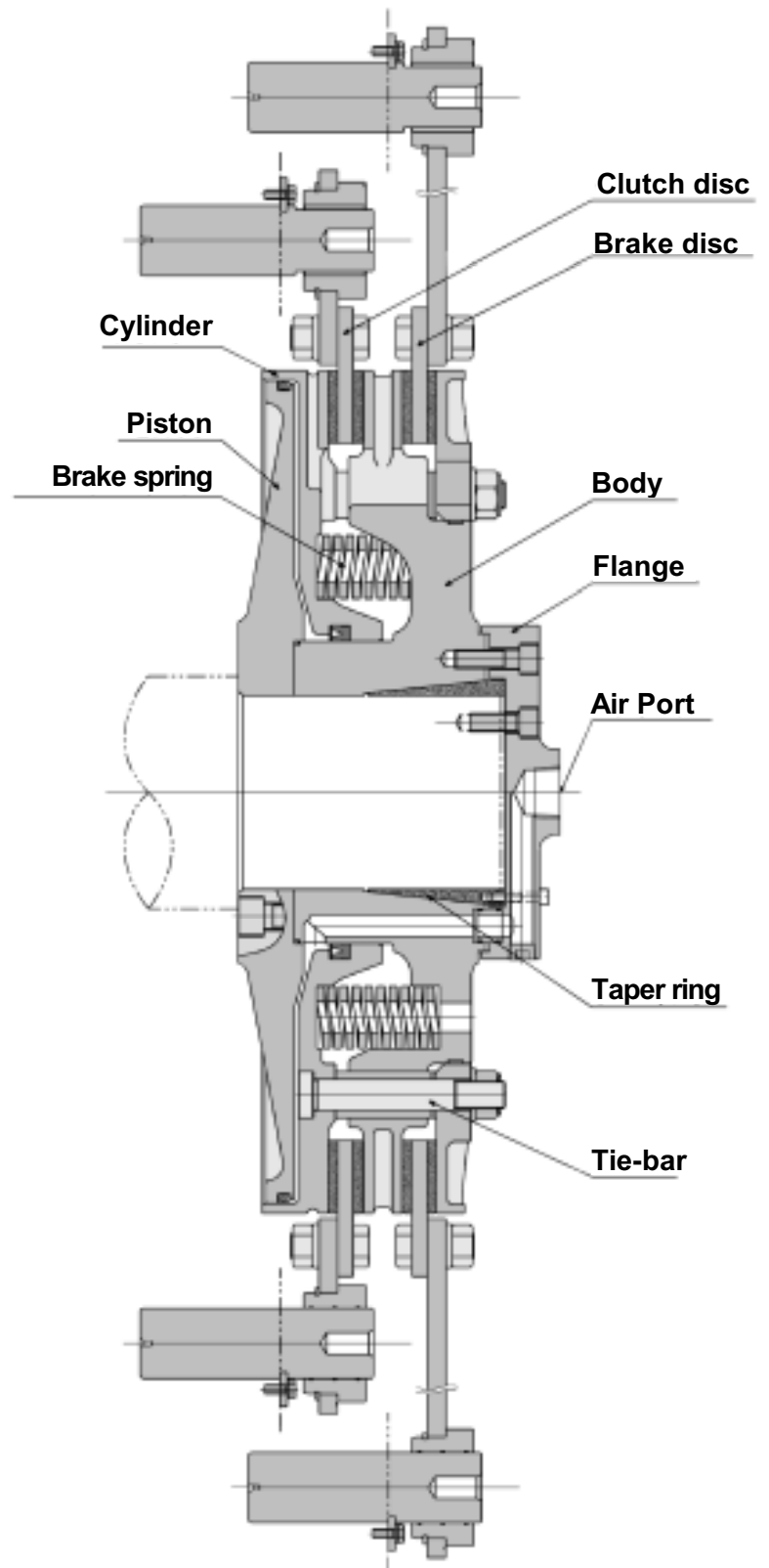
**Pascal**  
corporation

[www.pascaleng.co.jp](http://www.pascaleng.co.jp)

# PASCAL<sup>®</sup> CLUTCH BRAKE



Clutch torque : 7463 ~ 65474N·m  
Brake torque : 5777 ~ 22245N·m



Pneumatic Actuated Combination

Reliable High performance

# Clutch Brake

**Minimized moment( $GD^2$ )**  
**Largest available torque**  
**High intermittent operation**  
**Prominent durability**

Cylinder output is directly transmitted to lining surfaces by equalizing cylinder, clutch and brake lining diameter. Its structure is compact, yet highly efficient.

Pressure on lining faces become equalized, thus stable and high torque characters can be obtained.

Partial/inconstant friction on lining surfaces can be restrained, thus endurance of linings is improved reducing maintenance work.

Pursuit of high precision machining could shorten cylinder stroke and its volume, thus faster and stable response could be achieved.

Structural analysis and data pooling from prototypes made lightweight structure possible. Minimized moment, high-rigidity and reliability are accomplished.

Cooler fins are specially designed for very high radiation efficiency at long-running operation as well as at frequent intermittent operation.

Adopting of ductile iron with very limited impurities FCD 500 has brought high reliability.

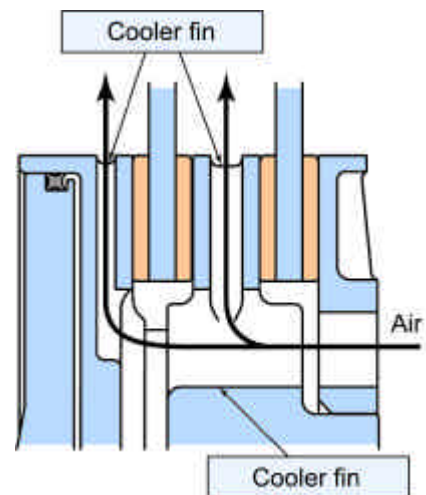
Standardized taper ring assures joint strength between the clutch and drive shaft under any harsh conditions such as high speed, frequent intermittent and long operation.

Taper ring can be installed any angles to rotational direction of drive shaft, and it has self centering function. Adopting taper ring eases installation and disassembly of clutch brake.

Specially designed air flange unit is adapted, thus machining of drive shaft for air inlet is unnecessary. Please contact AIOI SEIKI INC.

There are five models in PCR series for a variety of clutch brake torque setting you need

## High radiation efficiency

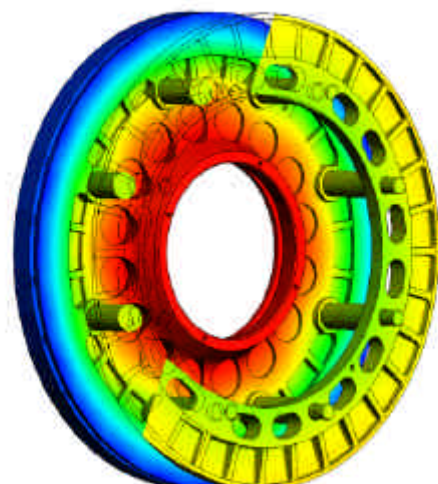


## Strictly selected material FCD500



(  $\times 100$  )

## Structural analysis gave the optimum design

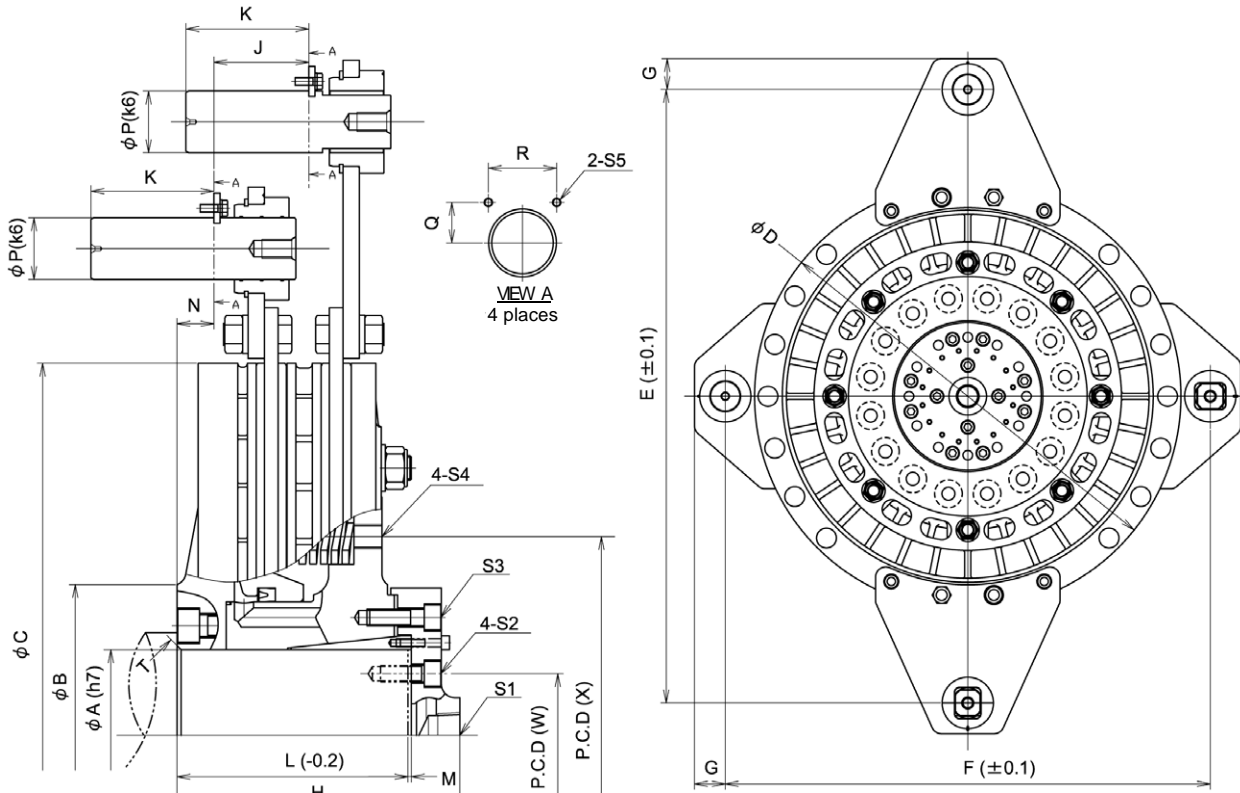


## MODEL & SPECIFICATIONS

| Model                  |                       | PCR 53 | PCR 58 | PCR 66 | PCR 73 | PCR 83 |  |
|------------------------|-----------------------|--------|--------|--------|--------|--------|--|
| Clutch torque<br>(N·m) | Air pressure 0.35 MPa | 7463   | 9479   | 14107  | 19610  | 28656  |  |
|                        | 0.40 MPa              | 9375   | 11964  | 17760  | 24636  | 36019  |  |
|                        | 0.45 MPa              | 11286  | 14450  | 21411  | 29663  | 43383  |  |
|                        | 0.50 MPa              | 13197  | 16935  | 25063  | 34690  | 50747  |  |
|                        | 0.55 MPa              | 15108  | 19421  | 28715  | 39717  | 58111  |  |
|                        | 0.60 MPa              | 17019  | 21907  | 32367  | 44745  | 65474  |  |
| Brake torque           | (N·m)                 | 5777   | 7597   | 11093  | 15177  | 22245  |  |
| Inertia (J)            | (kg·m <sup>2</sup> )  | 4.12   | 6.39   | 11.6   | 19.4   | 35.5   |  |
| GD <sup>2</sup>        | (kgf·m <sup>2</sup> ) | 16.5   | 25.6   | 46.4   | 77.6   | 142    |  |
| Cylinder capacity      | (dm <sup>3</sup> )    |        |        |        |        |        |  |
|                        | At new lining         | 0.83   | 1.13   | 1.55   | 1.79   | 2.39   |  |
|                        | At worn lining        | 1.35   | 2.26   | 3.03   | 3.99   | 5.21   |  |
| Max. speed             | (rpm)                 | 1050   | 950    | 850    | 750    | 650    |  |
| Weight                 | (kg)                  | 177    | 240    | 325    | 452    | 624    |  |

: Figures are of initial at shipment time. Torque reduction at maximum lining wears is 10% for clutch & 15% for brake.

## DIMENSIONS



TABLE

| Model  | maxA | B   | C   | D   | E    | F    | G  | H   | J     | K   | L   | M   | N    | P  | Q    | R  | S1      | S2       | S3        | S4  | S5     | T  | (W) | (X) |
|--------|------|-----|-----|-----|------|------|----|-----|-------|-----|-----|-----|------|----|------|----|---------|----------|-----------|-----|--------|----|-----|-----|
| PCR 53 | 125  | 220 | 543 | 624 | 960  | 700  | 45 | 207 | 69.5  | 90  | 169 | 2.5 | 27   | 45 | 29.5 | 35 | Rc1     | 4-M12x30 | 12-M12x40 | M16 | M6X12  | C3 | 90  | 290 |
| PCR 58 | 140  | 260 | 594 | 680 | 1080 | 780  | 55 | 230 | 80.5  | 120 | 188 | 2.5 | 28.5 | 60 | 41   | 45 | Rc1     | 4-M12x35 | 12-M12x45 | M16 | M8X16  | C3 | 100 | 320 |
| PCR 66 | 150  | 290 | 670 | 770 | 1135 | 880  | 55 | 255 | 83.5  | 120 | 200 | 2.5 | 34.5 | 60 | 41   | 45 | Rc1-1/2 | 4-M16x40 | 8-M16x50  | M20 | M8X16  | C4 | 120 | 350 |
| PCR 73 | 170  | 330 | 746 | 844 | 1320 | 960  | 65 | 282 | 97.5  | 150 | 224 | 3   | 36.5 | 75 | 52.5 | 60 | Rc1-1/2 | 4-M16x40 | 12-M16x50 | M20 | M10X20 | C5 | 130 | 390 |
| PCR 83 | 200  | 370 | 848 | 966 | 1500 | 1100 | 65 | 307 | 102.5 | 150 | 240 | 3   | 43.5 | 75 | 52.5 | 60 | Rc2     | 4-M20x45 | 8-M20x55  | M24 | M10X20 | C6 | 150 | 460 |

Specifications can be changed without notice.

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