Hydraulic Core Pin Cylinders

DK Series

Ø40 mm  Ø55 mm

Catalog Number C00106B
DADCO was founded in 1958 and today supplies a wide range of fluid power products for use in molds, dies, and automation equipment. With product ranging from the Micro Nitrogen Gas Spring Series to air/oil accumulators, DADCO provides customers with quality products of unmatched performance.

DADCO's innovative Hydraulic Core Pin Cylinder was developed specifically for use in plastic injection molds. Its compact, one-piece round body and rear porting capability make it the ideal replacement for bulky, square head, tie-rod style cylinders. The one piece body also eliminates the need to seal between multiple body parts, therefore decreasing the potential for leaks.

**Sealing Features**

DADCO's Core Pin Cylinder is constructed with long-lasting, high temperature seals, as standard. Consequently, the Core Pin Cylinder can typically withstand the high temperatures inside plastic molds. As an option, seals are available that provide for zero fluid bypass while standing up to operating pressures as high as 220 bar (3000 psi).

**Porting Options**

The DADCO Hydraulic Core Pin Cylinder offers numerous porting advantages. Convenient rear porting eliminates the need to provide additional space for piping to the front of the cylinder. However, side ports are also supplied on every cylinder. Every port is sealed with a high-temperature, fluoro carbon elastomer (FPM/FKM) seal to assure zero leakage. Two straight port adapters are supplied as standard with each cylinder.

**Models**

DADCO's Core Pin Cylinder is optionally available in a non-rotating model for use in applications where the rod alone controls the core pin orientation. The non-rotating model is available in both 13 and 25 mm (Nom. 0.5 and 1") stroke lengths. DADCO's Core Pin Cylinder may also be supplied with a double rod end. The body length of the double rod end cylinder is the same as the standard model. Contact DADCO for information on special cylinders.

**Quality Construction**

The Core Pin Cylinder's one-piece steel body is machined to close tolerances and corrosion protected. The hard chrome plated piston rod has wrench flats for easy core pin connection. Standard stroke lengths are 13, 25, 50, 80, and 100 mm. (Nom. 0.5", 1", 2", 3", 4"). Various male and female rod end styles are available.

**Convenient Mounting**

Unlike square head cylinders, DADCO's compact Core Pin Cylinder can be easily inserted into cored pockets within the mold. Simple two bolt mounting through the full body length of the cylinder facilitates fast installation. An attachable front flange mount is also available for the Ø40 mm bore size for greater mounting versatility.
Optional Cylinder Styles

DADCO's Hydraulic Core Pin Cylinder is used to extract the core pin from the formed workpiece. In this application, the double rod end cylinder is used with an adjustable limit switch to achieve the desired cylinder travel within the mold.

![Diagram of core pin cylinder with limit switch and double rod end]

Versatile Mounting

In this application, DADCO's ø40 mm Hydraulic Core Pin Cylinder is mounted outside of the mold with an attachable front flange mount. Four mounting bolts are used to secure the cylinder to the mold.

The compact cylinder also can be installed easily in cored pockets within the mold, as shown above. Installation is fast and simple with two mounting bolts through the full body length of the cylinder.

![Diagram of core pin cylinder with attachable flange mount]
Hydraulic Core Pin Cylinders

Ø40 mm Core Pin Cylinder

Standard or Non-Rotating Cylinder

<table>
<thead>
<tr>
<th>Bore</th>
<th>Stroke</th>
<th>Model</th>
<th>Rod End Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2-20 – Rod End Style 1</td>
<td>1/2-20 – Rod End Style 1</td>
<td>1/2-20 – Rod End Style 1</td>
<td>1/2-20 – Rod End Style 1</td>
</tr>
<tr>
<td>M12x1.25 – Rod End Style 2</td>
<td>M12x1.25 – Rod End Style 2</td>
<td>M12x1.25 – Rod End Style 2</td>
<td>M12x1.25 – Rod End Style 2</td>
</tr>
<tr>
<td>G1/8</td>
<td>G1/8</td>
<td>G1/8</td>
<td>G1/8</td>
</tr>
<tr>
<td>(2) PL. SIDE</td>
<td>(2) PL. SIDE</td>
<td>(2) PL. SIDE</td>
<td>(2) PL. SIDE</td>
</tr>
</tbody>
</table>

Note: Two GV-120 service fittings are installed in the rear ports of each cylinder. Other fittings are also available. See page 9.

Ordering Information:

- **Model**: DK-40.25.1
- **Bore**: DK–13, 25, 50, 80, 100 mm
- ***DKN–13 and 25 mm only**
- **Rod End Style**: 1 - 1/2-20 Male Rod End
  2 - M12 x 1.25 Male Rod End
  3 - Female Rod End (M10 x 1.25)

---

**Pull Force**

**Pull Force (daN)**

![Pull Force (daN) Graph]

Push force is pull force x 1.20

**Pull Force (lb.)**

![Pull Force (lb.) Graph]

Push force is pull force x 1.20
Note: Force charts can be found on page 4. For the DKD cylinder, the push force equals the pull force.

Ordering Information:

DKD-40.25.1.1

**Model**
- DKD- Double Rod End

**Bore**
- G1/8 SHCS

**Stroke**
- 13, 25, 50, 80, 100 mm

**Rear Rod End Style**
- 1 - 1/2-20 Male Rod End
- 2 - M12 x 1.25 Male Rod End
- 3 - Female Rod End (M10 x 1.25)

**Front Rod End Style**
- 1 - 1/2-20 Male Rod End
- 2 - M12 x 1.25 Male Rod End
- 3 - Female Rod End (M10 x 1.25)

Note: Two GV-120 service fittings are installed in the rear ports of each cylinder. Other fittings are also available. See page 9.
Hydraulic Core Pin Cylinders

ø55 mm Core Pin Cylinder

Standard or Non-Rotating Cylinder

<table>
<thead>
<tr>
<th>STROKE</th>
<th>BODY</th>
</tr>
</thead>
<tbody>
<tr>
<td>*13</td>
<td>125</td>
</tr>
<tr>
<td>*25</td>
<td>125</td>
</tr>
<tr>
<td>50</td>
<td>150</td>
</tr>
<tr>
<td>80</td>
<td>180</td>
</tr>
<tr>
<td>100</td>
<td>200</td>
</tr>
</tbody>
</table>

Ordering Information:

- Model: DK, DKN
- Bore: M16 x 1.5
- Stroke: 13, 25, 50, 80, 100 mm
- Rod End Style 1: 3/4-16 Rod End Style
- Rod End Style 2: M20 x 1.5 Rod End Style
- Rod End Style 3: Female Rod End (M16 x 1.5)

Note: Two GV-140 service fittings are installed in the rear ports of each cylinder. Other fittings are also available. See page 9.
Note: Two GV-140 service fittings are installed in the rear ports of each cylinder. Other fittings are also available. See page 9.

Ordering Information:

Model
DKD- Double Rod End

Bore

Stroke
13, 25, 50, 80, 100 mm

Rear Rod End Style
1 - 3/4-16 Male Rod End
2 - M20 x 1.5 Male Rod End
3 - Female Rod End (M16 x 1.5)

Front Rod End Style
1 - 3/4-16 Male Rod End
2 - M20 x 1.5 Male Rod End
3 - Female Rod End (M16 x 1.5)
Attachable Front Flange Mount

DK40-RF

An attachable front flange mount is available for use with the DADCO 40 mm bore size DK Hydraulic Core Pin Cylinder for increased mounting options. The flange mount allows for fast, easy mounting and is especially useful for securing the Core Pin Cylinder outside the mold.
Port Adapters

Hydraulic Core Pin Cylinders

**ø40 mm Core Pin Cylinder Port Adapters**

### 37° Flare

**GV-120**
Straight Service Fitting

**GV-321**
45° Elbow Service Fitting

**GV-221**
90° Elbow Service Fitting

**Note:** Two GV-120 straight service fittings are installed in the rear ports of each Core Pin Cylinder.

**9/16-18 SEAL-LOK**

**SV-115**
Straight Service Fitting
G1/8 BSPP → 9/16-18 SEAL-LOK

**Note:** Other fittings are available. Contact DADCO for more information.

---

**ø55 mm Core Pin Cylinder Port Adapters**

### 37° Flare

**GV-140**
Straight Service Fitting

**GV-341**
45° Elbow Service Fitting

**GV-241**
90° Elbow Service Fitting

**Note:** Two GV-140 straight service fittings are installed in the rear ports of each Core Pin Cylinder.

**13/16-16 SEAL-LOK**

**SV-135**
Straight Service Fitting
G1/4 BSPP → 13/16-16 SEAL-LOK

**Note:** Other fittings are available. Contact DADCO for more information.
Hydraulic Core Pin Cylinders

CAUTION
Check the compatibility of the hydraulic fluid with the seal material. Use the hydraulic fluid manufacturer’s recommendations for the operating temperature.

Seal Material Operating Specifications
*Seal Material: Fluorocarbon Elastomer (FPM/FKM)
Operating Pressure: 20 – 220 bar (250 – 3000 psi)
Working Temperature: -29°C – 204°C (20° – 400°F)
Maximum Temperature: 260°C (500°F) for short duration only
*Check hydraulic fluid compatibility with the seal material. Avoid ketones and Skydrol hydraulic fluids.

General

• Proper fluid filtration is necessary in all hydraulic systems to ensure optimal performance. Metal shavings and other particles in hydraulic fluid will damage core pin cylinders. [S1]

• The DADCO Core Pin Cylinder is constructed with high-temperature fluorocarbon elastomer (FPM/FKM) seals.

Installation Requirements

• The DADCO Core Pin Cylinder can be installed in the mold in any position. However, side loading can cause increased wear on the bearing and should be avoided. Install the cylinder so it is perpendicular to the mounting surface.

• In high temperature applications, maintain a clearance of 0.25 mm (.010") between the cylinder and the mold pocket to ensure proper heat transfer. [S2]

Repair Kit
DK40-RK    DK55-RK
DKD40-RK    DKD55-RK


Starter Tube
ST-40
ST-55

When installing the piston into the body of the cylinder, use this tool to avoid damaging the piston seal.

Spanner Wrench
SW-40
SW-55

Use this tool when removing the cartridges of both the standard and double rod ends for maintenance.
### Parts List

<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
<th>ø40 mm Part Number</th>
<th>ø55 mm Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Standard / Non Rotating Cylinder Body</td>
<td>KE05M._*</td>
<td>KF05M._*</td>
</tr>
<tr>
<td>B</td>
<td>Piston Rod</td>
<td>KE15M._*</td>
<td>KF15M._*</td>
</tr>
<tr>
<td>C</td>
<td>Piston</td>
<td>KE256573</td>
<td>KF256641</td>
</tr>
<tr>
<td>D</td>
<td>Piston Nut</td>
<td>KE856709</td>
<td>KF856791</td>
</tr>
<tr>
<td>E</td>
<td>Non Rotating Piston Nut</td>
<td>KE156598</td>
<td>KF156640</td>
</tr>
<tr>
<td>F</td>
<td>Metric Rod End Stud</td>
<td>KE156734</td>
<td>KF156793</td>
</tr>
<tr>
<td>G</td>
<td>Inch Rod End Stud</td>
<td>KE156774</td>
<td>KF156792</td>
</tr>
<tr>
<td>H</td>
<td>Flush Plug</td>
<td>KE86V236</td>
<td>KF86V351</td>
</tr>
<tr>
<td>I</td>
<td>Piston Rod O-Ring</td>
<td>KE45V243</td>
<td>KF45V350</td>
</tr>
<tr>
<td>J</td>
<td>Piston Seal</td>
<td>KE48V238</td>
<td>KF48V345</td>
</tr>
<tr>
<td>K</td>
<td>Piston Rider</td>
<td>KE41V237</td>
<td>KF41V344</td>
</tr>
<tr>
<td>L</td>
<td>Double Rod End Cylinder Body</td>
<td>KE05D._*</td>
<td>KF05D._*</td>
</tr>
<tr>
<td>M</td>
<td>Rear Piston Rod</td>
<td>KE15D._*</td>
<td>KF15D._*</td>
</tr>
<tr>
<td>N</td>
<td>Front Cartridge Assembly</td>
<td>KE006571</td>
<td>KF006642</td>
</tr>
<tr>
<td>P</td>
<td>Rear Cartridge Assembly</td>
<td>KE006595</td>
<td>KF006637</td>
</tr>
</tbody>
</table>

*Must also specify stroke length when ordering these parts.*
Other DADCO Products

Micro—C Series
- 19 mm, 25 mm and 32 mm diameters
- Pre-set, color-coded force models from 4.5 daN to 310 daN on contact, adjustable models available
- Full range of standard stroke lengths up to 125 mm
- Threaded body style available

ISO / 90.10 Series
- From 32 mm to 195 mm in diameter
- Forces up to 100 kN
- Full range of standard stroke lengths up to 300 mm
- Bolt-on or welded mounts available
- ISO Standards

HP Air Cylinder
- Complies with NAAMS, ISO and VDMA
- ø32 mm - ø250 mm
- Features steel bolt-on mounts
- Optional double rod end and back to back cylinders
- Two Post Direct Lift available

Mini—L Series / 90.3
- 38 mm, 44.5 mm and 50 mm diameters
- Force models: 3 kN, 5 kN, and 7.5 kN
- Full range of standard stroke lengths up to 125 mm
- Threaded body and stud mount models

Mini—LJ Series / 90.7
- 38 mm, 44.5 mm and 50 mm diameters
- Force models: 3 kN, 5 kN and 7.5 kN
- Full range of standard stroke lengths up to 125 mm
- Complete piping capabilities with DADCO's MINILink™ System