



## Built-In Elements

**piston and threaded bushing, complete with seals for block cylinder, double acting, max. operating pressure 500 bar**



### Important notes

After tightening the threaded bushing it has to be secured against torsion, e.g. by means of a small threaded pin.

The tolerances for dimensions and surface roughness must not be exceeded.

Operating conditions, tolerances and other data see data sheet A 0.100.

Contact bolts see data sheet G 3.800.

### Material

Piston: case-hardening steel, hardened

Built-in bushing: free-cutting steel

### Seals

Max. cylinder temperature

NBR -25 ... +100 °C

FKM -20 ... +200 °C

Alternatively, NBR or FKM sealings can be delivered. FKM seals are required for cylinder temperatures over 100 °C and (or) fire-resistant liquids of type HFD.

### Application

Built-in elements are directly integrated in the fixture body. Such created cylinders can be used as push or pull cylinders.

Built-in elements are used on fixtures with narrow spaces, and for applications where mounted standard clamping elements limit the machining space or impede swarf flow.

### Description

The built-in elements consist of piston and threaded bushing. The piston is inserted into the location hole of the fixture. Then the built-in bushing is screwed into the fixture body. The bushing is let-in flush to the housing. Tightening of the threaded bushing is made with a pin-type face spanner.

Sealing with minimum leakage at the piston rod is obtained by two independent sealing steps. In addition, a wiper protects against contamination. Sealing in the fit hole is made by an O-ring/back-up ring combination.

### Range of force:

2 kN at piston Ø 16 mm and 100 bar up to 156 kN at piston Ø 63 mm and 500 bar.  
3 standard stroke lengths are available.

Special versions are available on request.  
Please contact us.

### Advantages

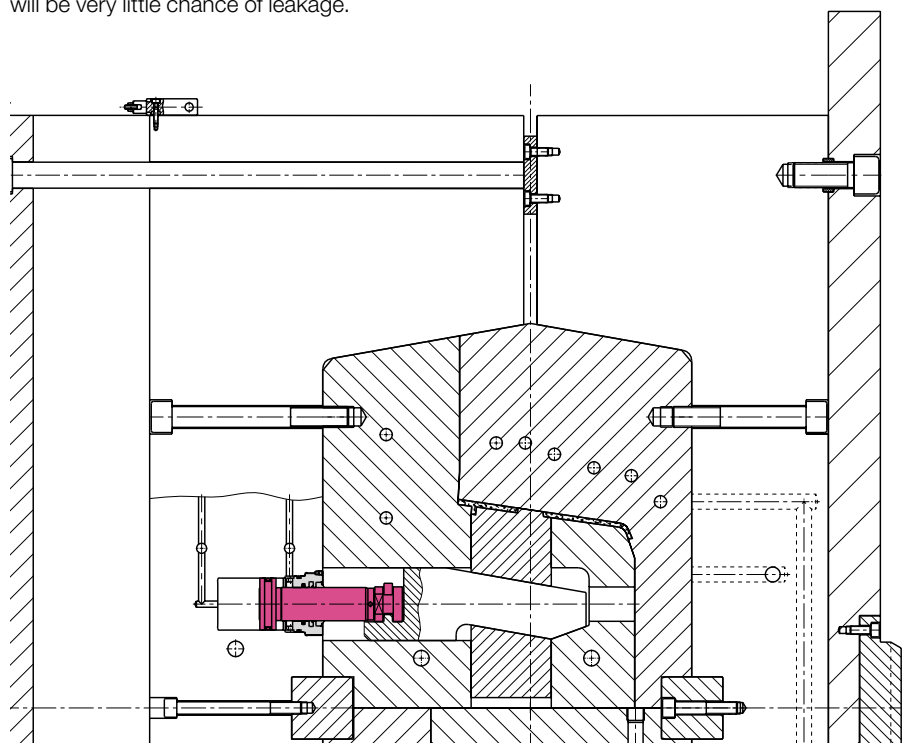
- Space-saving installation of cylinders
- More compact fixtures
- More workpieces per fixture
- More machining space
- Less sensitive to swarf
- Sealing with very little leakage
- Individual adaptation possibilities

### Application example

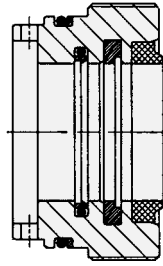
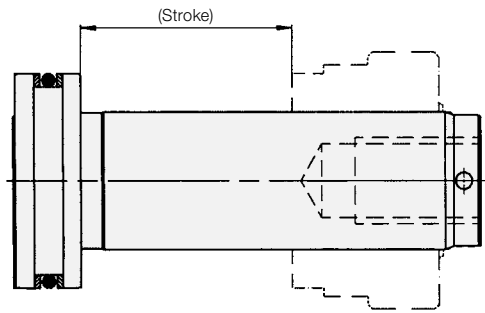
The following example shows an injection mould with one built-in element. The built-in cylinder and wedge operate the profile slide to eject the break-outs and to clear the angle ribs.

### Advantage

Using built-in elements in the interior of the mould, direct control of motion cycles is possible without additional force deflection. Piping is not necessary, thus there will be very little chance of leakage.



**Technical data  
and installation dimensions  
on request**



Technical data and installation dimensions  
on request

Piston and rod Ø	Stroke	Piston, complete		Threaded bushing, complete		Seal kit	
		Part no.		NBR	FKM	NBR	FKM
16/10	16	Part no.	0350 110	0350 112	0154 110	0154 111	0131 151
	50	Part no.	0350 111	0350 113			0131 440
25/16	20	Part no.	0350 114	0350 117	0154 310	0154 311	0131 154
	50	Part no.	0350 115	0350 118			0131 441
	100	Part no.	0350 116	0350 119			
32/20	25	Part no.	0350 120	0350 123	0154 410	0154 411	0131 156
	50	Part no.	0350 121	0350 005			0131 442
	100	Part no.	0350 122	0350 006			
40/25	25	Part no.	0350 124	0350 127	0154 510	0154 511	0131 158
	50	Part no.	0350 125	0350 128			0131 443
	100	Part no.	0350 126	0350 129			
50/32	25	Part no.	0350 130	0350 133	0154 610	0154 611	0131 160
	50	Part no.	0350 131	0350 134			0131 444
	100	Part no.	0350 132	0350 135			
63/40	30	Part no.	0350 136	0350 139	0154 710	0154 711	0131 166
	63	Part no.	0350 137	0350 140			0131 445
	100	Part no.	0350 138	0350 141			
80/50	32	Part no.	0350 142	0350 145	0154 810	0154 811	0131 167
	80	Part no.	0350 143	0350 146			0131 446
	100	Part no.	0350 144	0350 147			
100/63	40	Part no.	0350 148	0350 150	0154 910	0154 911	0131 168
	100	Part no.	0350 149	0350 151			0131 447