

# Work supports for low pressure

threaded body, actuation with hydraulic, contact by spring force, pmax. 70 bar

**280-70**

Issue: 10/2022

## Description:

If vibration and deflection must be avoided while machining workpieces in low pressure range, these work supports (ASE) are the ideal solution.

The threaded body elements can be screwed into customer-specific threaded installation bores to save space. The sealing is done with two supplied sealing rings against the bottom of the installation bore. The Work supports can be arranged horizontally and vertically in the clamping fixture.

Plunger fixing can be combined with the hydraulic clamping of the workpiece or separately. Two functional methods are choosable for advancing the plunger.

- Type 1: Plunger advances by spring load
- Type 2: Plunger advances hydraulically

## Functioning:

### 1. Plunger advances by spring load

Basic position of the plunger is extracted.

The integrated spring advances the support plunger against the workpiece.

After pressurization, the support plunger is fixed in position. Except from the spring load, no further forces act on the workpiece.

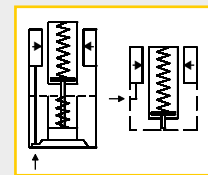
### 2. Plunger advances hydraulically

Basic position of the plunger is retracted.

The support plunger is held in the retracted position by a reset spring. When the pressurization initiates, the support plunger advances via spring force against the workpiece and be finally fixed in this position.



Webcode: 028070



## Important notes:

It is necessary to select the work supports in a appropriate size to make sure that the support capacity is at least 1.5 times of the clamping force plus the corresponding processing force.

There must be no transverse forces acting on the support plunger. The max. operating pressure of 70 bar must not be exceeded.

If there is a risk of penetration with coolants and lubricants into the work supports during machining, a vent line must be connected.

We recommend the installation of the work supports only in a depth that the plunger contacts the workpiece already in the middle stroke position. In this way different heights of workpieces can be compensated during the processing.

## Advantages:

- Space-saving installation options
- Horizontally and vertically installation possible
- Plunger fixing combined with clamping or separate possible
- Design allows only minimal friction of the plunger and prevents from penetration of metal chips

We also design and manufacture customized variants!



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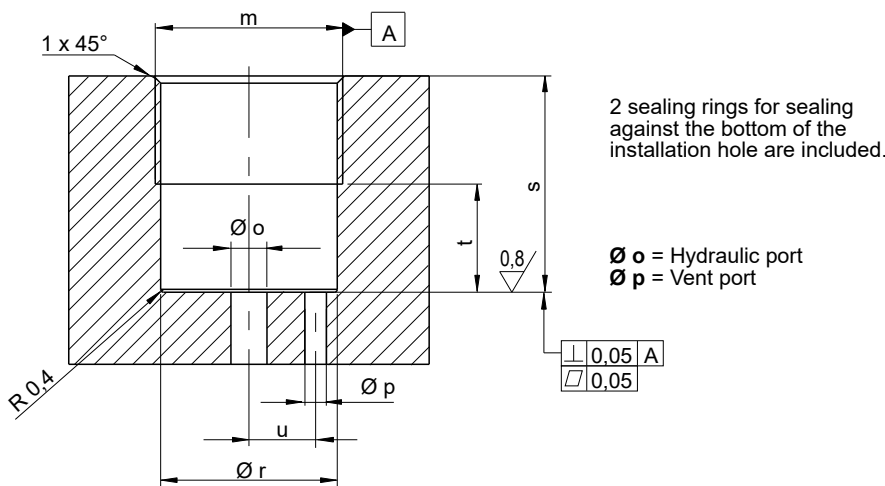
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## Support capacity:

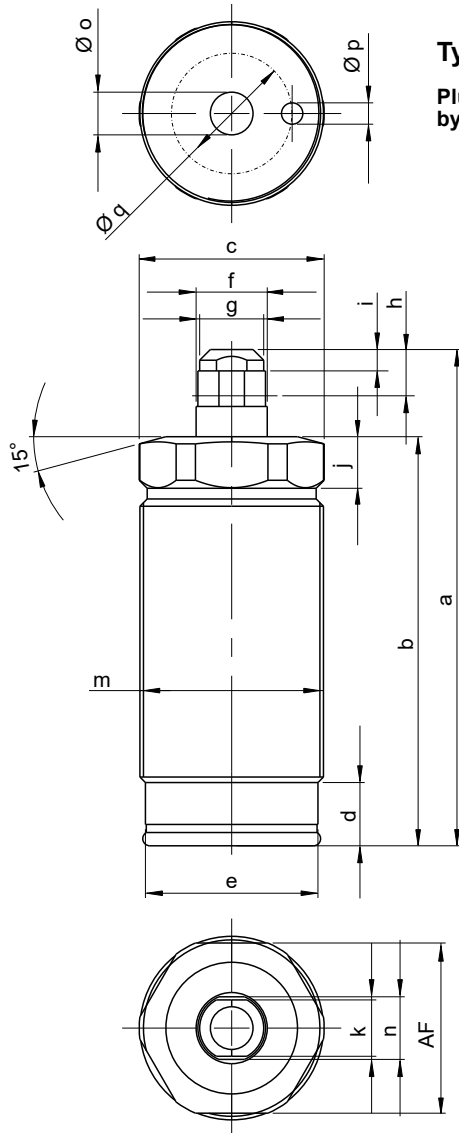
Plunger Ø: [mm]	Support capacities in kN			
	10	12	15	16
Calculation formula	(P-1) x 0,500	(P-1) x 0,667	(P-1) x 0,917	(P-1) x 1,667
Operating pressure	25 bar	30 bar	35 bar	40 bar
	0,8	1,0	1,3	1,7
	1,0	1,3	1,7	2,0
	1,5	2,0	2,8	3,7
	1,8	2,3	3,2	4,1
	2,0	2,7	3,7	4,6
	2,3	3,0	4,1	5,0
	2,5	3,3	4,6	5,8
	2,8	3,7	5,0	6,7
pmax.	70 bar	3,0	4,0	5,5
		4,0	5,5	10,0



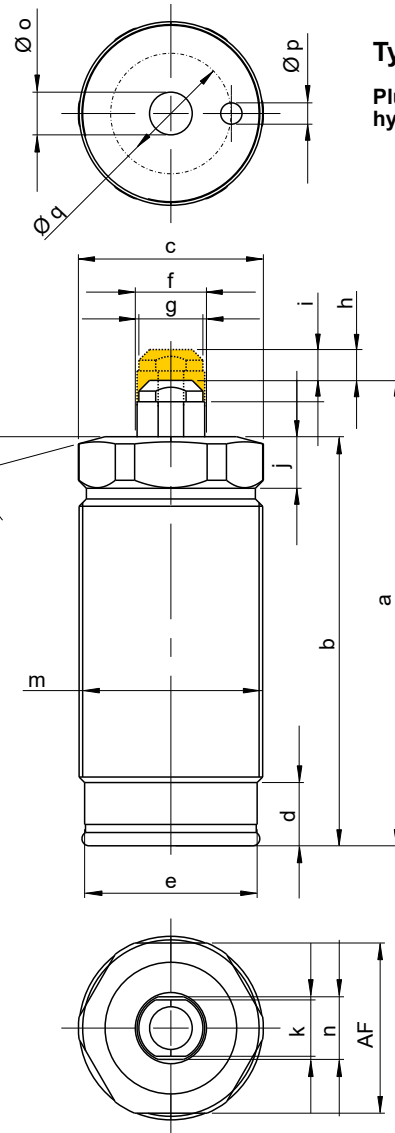
## Installation contour:

for ASE70 with plunger Ø:	[mm]	10	12	15	16
m	[mm]	M26 x 1,5	M30 x 1,5	M36 x 1,5	M45 x 1,5
o Ø	[mm]	max. 7	max. 8	max. 10	max. 10
p Ø	[mm]	max. 3	max. 4	max. 4	max. 6
r Ø	[mm]	24,5	28,5	34,5	43,5
s	[mm]	min. 20	min. 20	min. 18	min. 20
t	[mm]	max. 8	max. 9	max. 9	max. 9
u	[mm]	9,25	10	12,25	15
<b>Order No.</b>					
Seal kit (spare part)	DS-ASE70... →	-010-001	-012-001	-015-001	-016-001

Example: Order number for seal kit DS-ASE70-012-001



**Type 1**  
Plunger advances  
by spring load



**Type 2**  
Plunger advances  
hydraulically

The contact bolt is included.

**Technical data:**

Plunger Ø:	[mm]	10	12	15	16
h Plunger stroke	[mm]	6,5	8	8	10
Permissible load at 70 bar	[kN]	3	4	5,5	10
Tightening torque	[Nm]	35	40	40	55
Spring load, min.	[N]	6,2	8,8	12,8	12,7
Spring load, max.	[N]	9	14,9	20,7	22,8
Permissible flow rate (Type 1)	[cm <sup>3</sup> /s]	0,3	0,4	0,39	0,7
Permissible flow rate (Type 2)	[cm <sup>3</sup> /s]	0,55	0,8	1,02	1,49
a (Type 1)	[mm]	72,5	81	77	92
a (Type 2)	[mm]	66	73	69	82
b	[mm]	57	62	58	71
c	[mm]	26	30	36	45
d	[mm]	8,4	9,4	9,4	9,4
e	[mm]	24,25	28,25	34,25	43,15
f	[mm]	10	12	15	16
g	[mm]	9	11,5	12,5	12,5
i	[mm]	3	4	4	4
j	[mm]	8,75	8,75	8,75	12,25
k	[mm]	8	10	11	11
m		M26 x 1,5	M30 x 1,5	M36 x 1,5	M45 x 1,5
n	[mm]	8	10	13	13
o Ø	[mm]	max. 7	max. 8	max. 10	max. 10
p Ø	[mm]	max. 3	max. 4	max. 4	max. 6
q Ø	[mm]	18,5	20	24,5	30
AF	[mm]	24	27	32	41
<b>Order number</b> spring load	<b>ASE70...</b> →	<b>-010-01-001</b>	<b>-012-01-001</b>	<b>-015-01-001</b>	<b>-016-01-001</b>
hydraulically		<b>-010-03-001</b>	<b>-012-03-001</b>	<b>-015-03-001</b>	<b>-016-03-001</b>

Examples: Order numbers for work supports ASE70-016-01-001 (Type 1) ASE70-012-03-001 (Type 2)