Advantages:

- ✓ **Clamping without lateral force**
- ✓ **High clamping force**
- ✓ **Optional flow control available**
- ✓ **Various design options for clamp arms**
- ✓ **No interfering contours while loading/unloading**
- ✓ **Incl. positioning pin for clamp arms**
- ✓ **Compact Design**

General

Recommendations for use

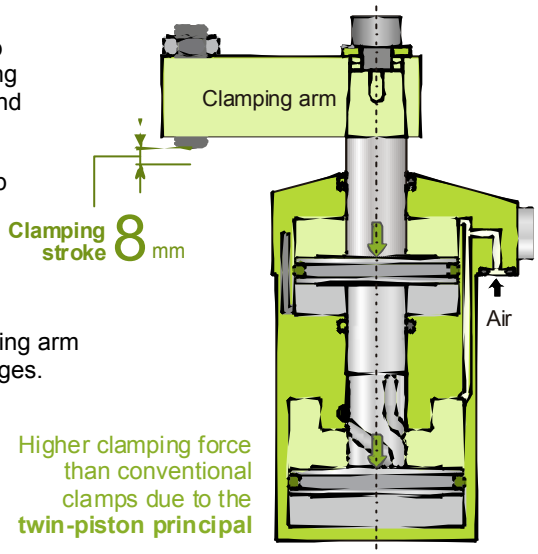
Swing Clamps are used to clamp workpieces for which the clamping points must be free for loading and unloading of the fixture.

The angular position of the clamp arm can be fixed with a pin.

Manifold mounting via flange or BSPP thread connection.

The maximal length of the clamping arm can be found on the following pages.

These clamps may only be operated with compressed air.



Higher clamping force than conventional clamps due to the **twin-piston principal**

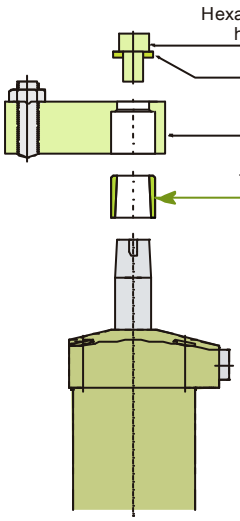
Description

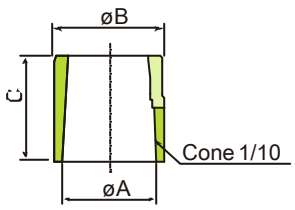
Due to the twin-piston principal a much higher clamping force can be achieved in comparison to comparable systems.
This is resulting in a much smaller body size, by keeping the same clamping force as a similar standard clamp which is 2 sizes bigger.
Escpecially in pneumatic applications this is a great advantage.

Swing clamps are pull-type cylinders, where a part of the total is used to swing the piston.

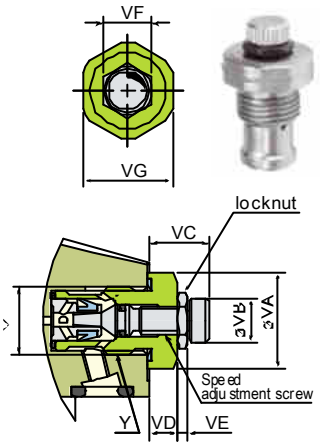
The swing clamp shows a robust panning mechanism with the optional possibility to throttle the moving speed.

Accessories





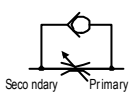
Taper Sleeve



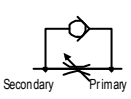
Throttle valve

Typ	VCL01-I	VCL01-O	VCL02-I	VCL02-O
Y	G1/8		G1/4	
VA	14		19	
VB	6.5			
VC	Min. 8.6 ~ Max. 12.6			
Number of rotations for setting	8 Rotations			
VD	4			
VE	1.5			
VF	7			
VG	13		17	

I Inflow

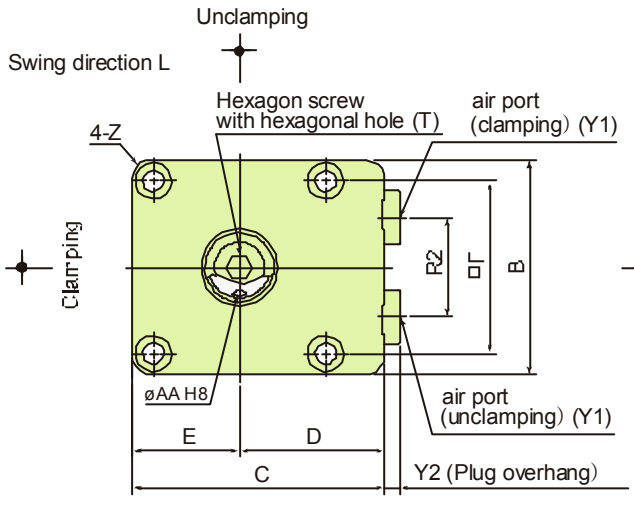


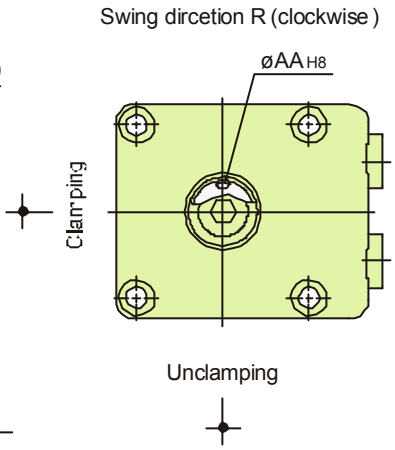
O Return flow

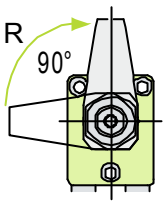


Taper Sleeve	CTH32-XS	CTH40-XS	CTH50-	CTH63-XS
Matching Swing Clamps	CTY32-□	CTY40-□	CTY50-□	CTY63-□
ø A	14	16	20	25
ø B	17	19	24	29
C	14	18	22	26

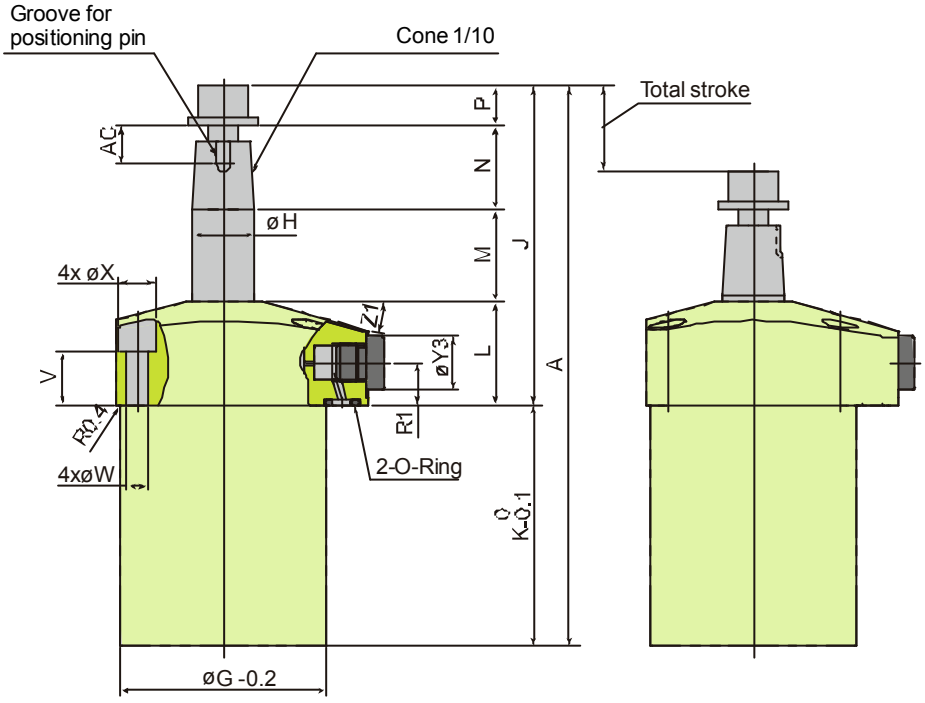
Installation Dimensions

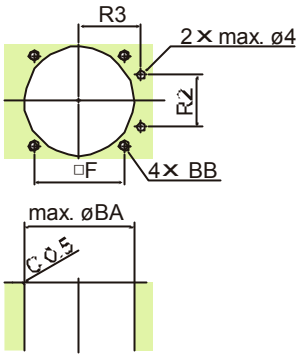




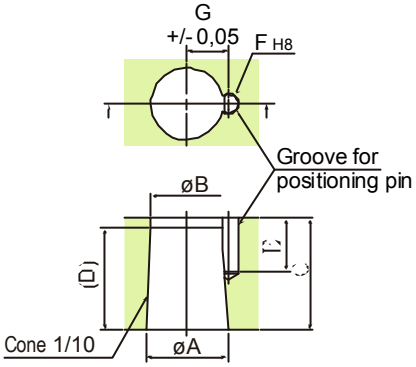


Example
Swing direction

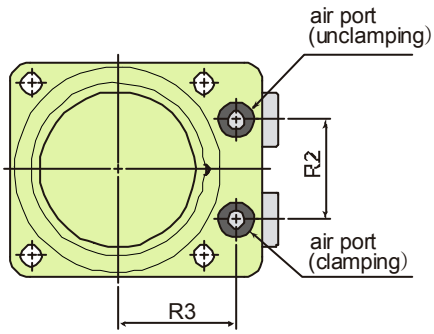




Mounting Contour

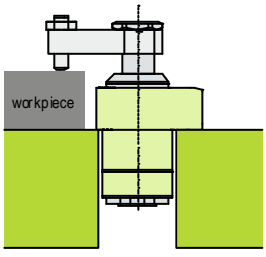


Details clamping arm contour

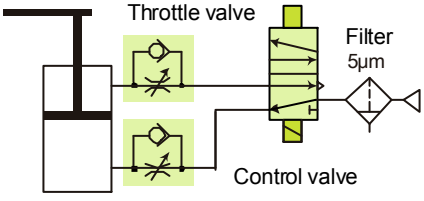


CTY... - R/L

Upper flange



Air circuit diagram



Type (-R; L)		CTY32-	CTY40-	CTY50-	CTY63-
Cylinder force at 5 bar	[N]	950	1430	2110	3090
Effective area clamping	[mm^2]	1905	2853	4214	6179
Total stroke	[mm]	17	18	21	24,5
Clamp stroke	[mm]	8	8	8	8
Swing angle	[°]	90	90	90	90
Weight	[kg]	0,49	0,67	1,1	1,7
Air volume - Clamping	[cm^3]	32,4	51,4	88,5	151,4
Air volume - Unclamping	[cm^3]	35	55	95,1	163,4
A	[mm]	141,3	148,3	171,7	195,7
B	[mm]	50	56	66	78
C	[mm]	60	66	80	91
D	[mm]	35	38	47	52
E	[mm]	25	28	33	39
F	[mm]	39	45	53	65
ØG	[mm]	46	54	64	77
ØH	[mm]	14	16	20	25
J	[mm]	75,3	79,3	95,2	105,7
K	[mm]	66	69	76,5	90
L	[mm]	27	27	32	32
M	[mm]	19	20	23	26,5
N	[mm]	19	22	27	32
P	[mm]	10,3	10,3	13,2	15,2
R1	[mm]	11	11	12,5	12,5
R2	[mm]	20	26	30	40
R3	[mm]	28	31	36	41
T	[ ]	M8 / 16 deep	M8 / 16 deep	M10 / 20 deep	M10 / 20 deep
V	[mm]	14	14	17	16
ØW	[mm]	5,5	5,5	6,8	6,8
ØX	[mm]	9,5	9,5	11	11
Y1	[Zoll]	G1/8	G1/8	G1/4	G1/4
Y2	[mm]	3,8	3,8	4,8	4,8
ØY3	[mm]	14	14	19	19
Z	[mm]	R5	R5	R6	R6
Z1	[°]	15	15	14	13
ØAA	[mm]	11	14	16	18
AC	[mm]	10,5	10,5	12,5	12,5
Pin size	[mm]	Ø4 h8 x 10	Ø4 h8 x 10	Ø5 h8 x 12	Ø5 h8 x 12
Taper sleeve	[P/N]	CTH32-XS	CTH40-XS	CTH50-XS	CTH63-XS

Contact

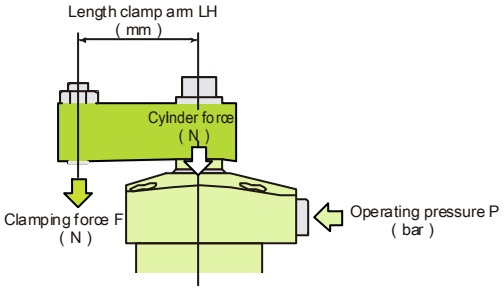
This offer is provided in cooperation with:

Pascal GmbH

iNOSOL GmbH
Frankfurter Str. 18
35315 Homberg/Ohm (Germany)

web: www.inosol.solutions
email: info@inosol.solutions
tel.: (+49) 6633 / 368 95 25

Details-Clamp arm



The force varies depending on the length of the clamp arm (LH) and operating pressure (P)

Formula Example Clamping force

F = P×100/ (Coefficient 1+Coefficient 2×LH)

F: Clamping force P: Operating air pressure LH: Length of clamp arm

CTY50 with length of clamp arm(LH)=60 mm at working pressure of 5 bar, the clamping force F is calculated by

5×100/(0.237+0.00105×60) = 1670N

The clamp is only to be used in the allowed area. Otherwise cylinder and rod can be seriously damaged.

Typ CTY32 Clamping force F=P×100/(0.350+0.00180×LH)

Air pressure bar	Cylinder force N	Clamping force N bar 35	50	70	90	100	120	Max. legth of clamp arm Max. LH mm
0.5	950	800	750	690	Non-usable area			77
0.4	760	640	600	550	510	500		109
0.3	570	480	450	410	380	370	350	182
0.2	380	320	300	280	260	250	230	190
0.1	190	160	150	140	130	120	120	190

Typ CTY40 Clamping force t F=P×1000/(0.350+0.00180×LH)

Air pressure bar	Cylinder force N	Clamping force N Length clamp arm mm 50	70	90	110	130	150	Max. length of-clamp arm Max. LH mm
0.5	1430	1140	1050		Non-usable area			75
0.4	1140	910	840	780				105
0.3	860	680	630	590	550	510	480	174
0.2	570	450	420	390	360	340	320	196
0.1	290	230	210	200	180	170	160	196

Typ CTY50 Clamping force F=P×1000/(0.237+0.00105×LH)

Air pressure bar	Cylinder force N	Clamping force N Length clamp arm mm 60	80	100	120	140	160	Max. length of - clamp arm Max. LH mm
0.5	2110	1670	1560	1460	Non-usable area			105
0.4	1690	1330	1250	1170	1100	1040		151
0.3	1270	1000	930	880	830	780	740	260
0.2	840	670	620	580	550	520	490	↑
0.1	420	330	310	290	280	260	250	260

Typ CTY63 Clamping force F=P×1000/(0.381+0.00090×LH)

Air pressure bar	Cylinder force N	Clamping force N Legnth clamp arm mm 75	90	110	130	150	170	Max. length of - clamp arm Max. LH mm
0.5	3090	2400	2300	2170	2060	1960		152
0.4	2470	1920	1840	1740	1650	1570	1500	224
0.3	1850	1440	1380	1300	1240	1180	1120	330
0.2	1230	960	920	870	820	780	750	↑
0.1	620	480	460	430	410	390	370	330