

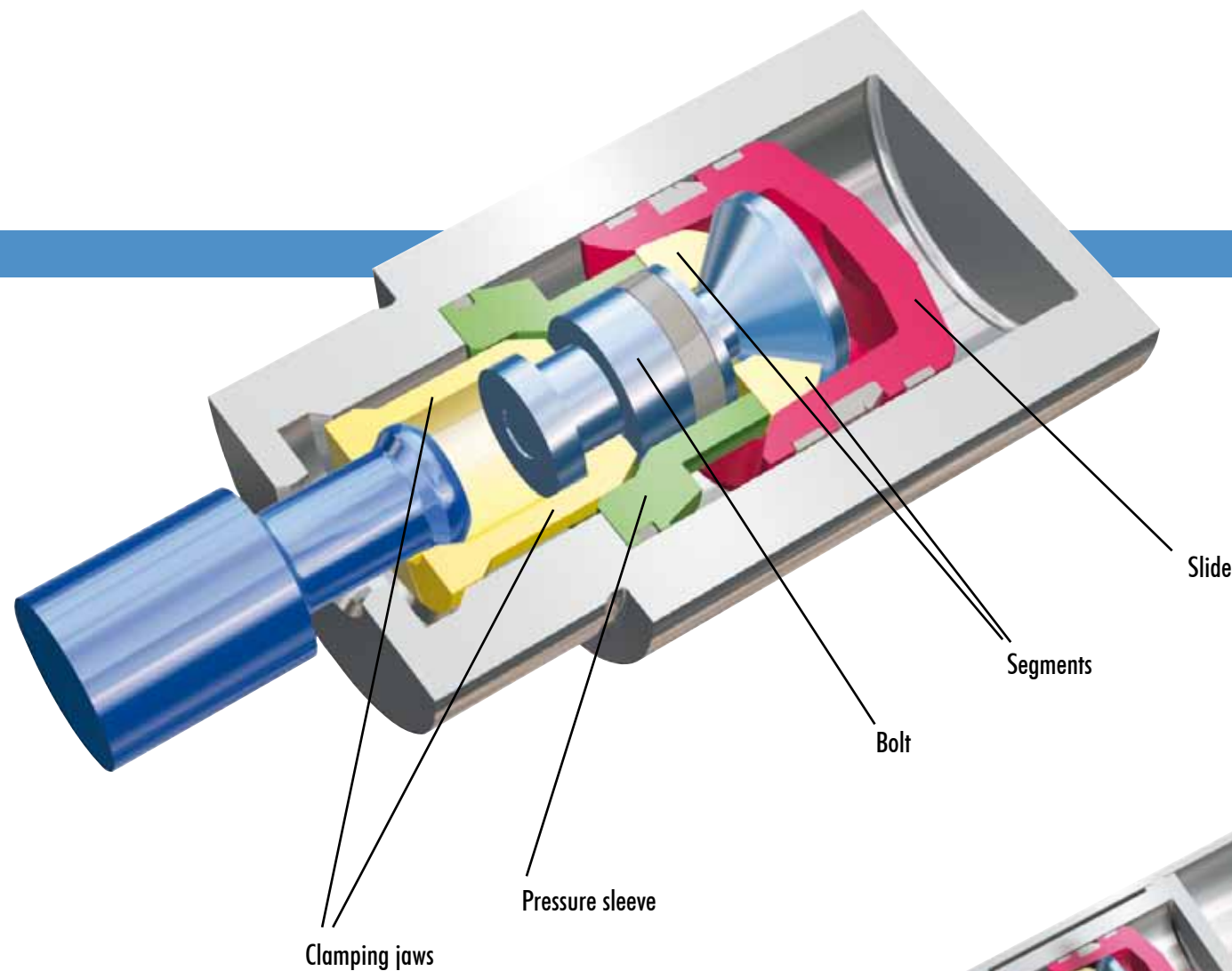
The previously described advantages of the CyDim are excellently enhanced by the actions of a positively locked collet coupling making it possible to realise the total functions

Couple - clamp - lock

with only one element without any need of additional control requirements.

The jaws self open automatically by means of the rubber elements that are vulcanized between them. The closing motion occurs by means of a double connecting link that allows the jaws to close in parallel. This prevents early wear and fatigue of the clamping unit.

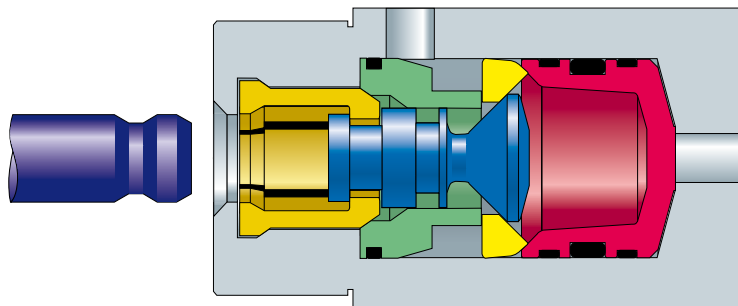
Self locking remains intact without maintaining pressure even under the influence of vibration.



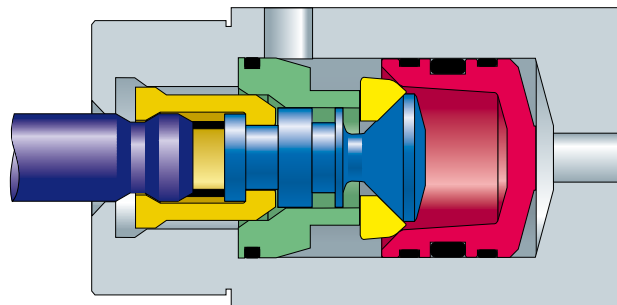
In the past complicated constructions were required to move a passive coupling generally by using two additional cylinders. This task is easily achieved by a CyTrac unit - "the automatic screw".

Further options include locking sensors, viton seals for high temperature applications and the use of silicone for vulcanization.

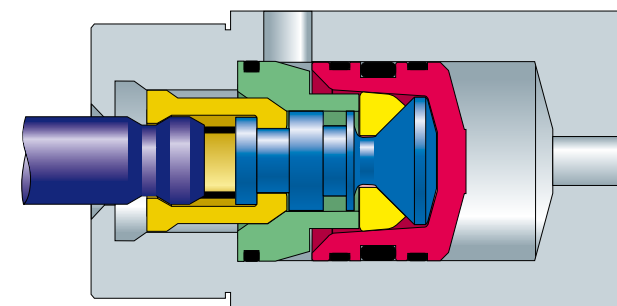
Function



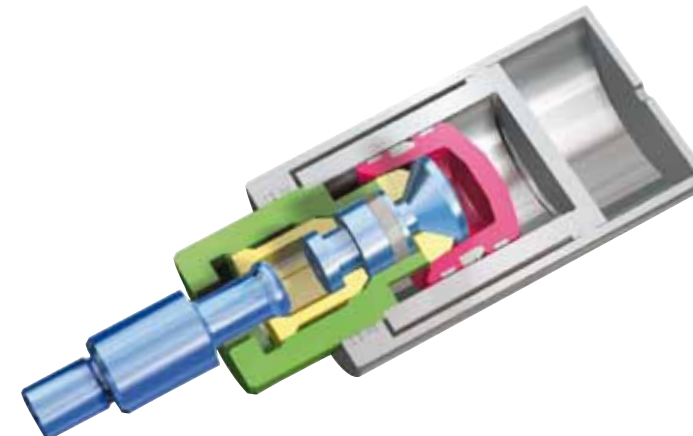
The CyTrac is open and relaxed when the tool bolt is introduced.



As the bolt is introduced the clamping jaws grip the rear groove of the bolt and draws it into the housing. During this phase the ratio between the feed and the pulling motion is 1:1. Pressure is introduced through the right hand port.



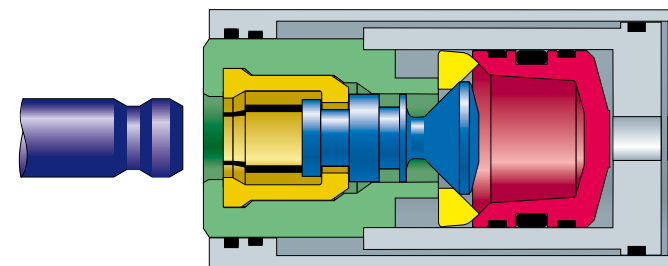
Here the system is locked with the bolt positively held by the clamping jaws under pre-load. The lock is released by putting pressure to the port at the top of the housing which allows the clamping jaws to return to their starting position.



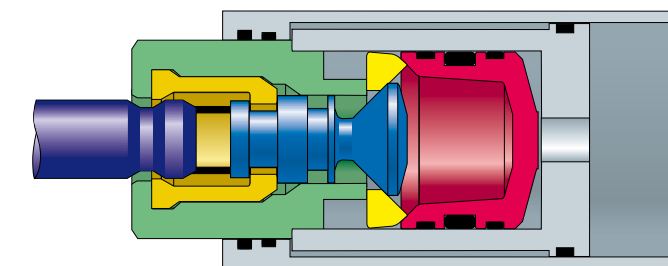
CyTrac-Scope

The CyTrac-Scope is a variation to the basic CyTrac design whereby the housing of the CyTrac itself carries out an additional axial lifting motion, therefore, considerably expanding the clamping stroke. This occurs automatically during the clamping process.

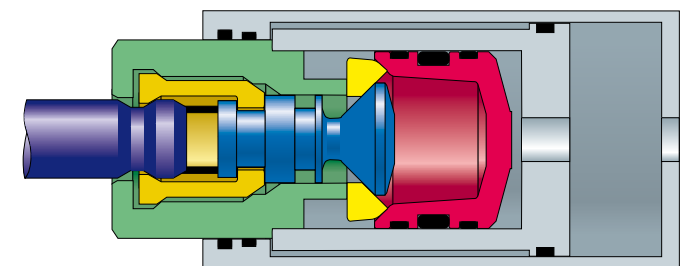
The coupling bolt is released simultaneously with the lock release. There is no need for additional control elements like valves etc. despite the enhanced function of the unit. The CyTrac Scope, as does the basic CyTrac unit, requires only two pressure connections.



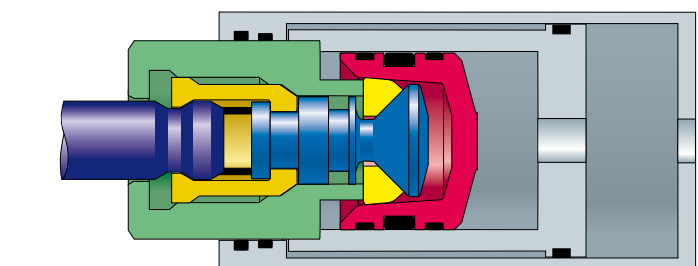
Phase 1



Phase 2



Phase 3



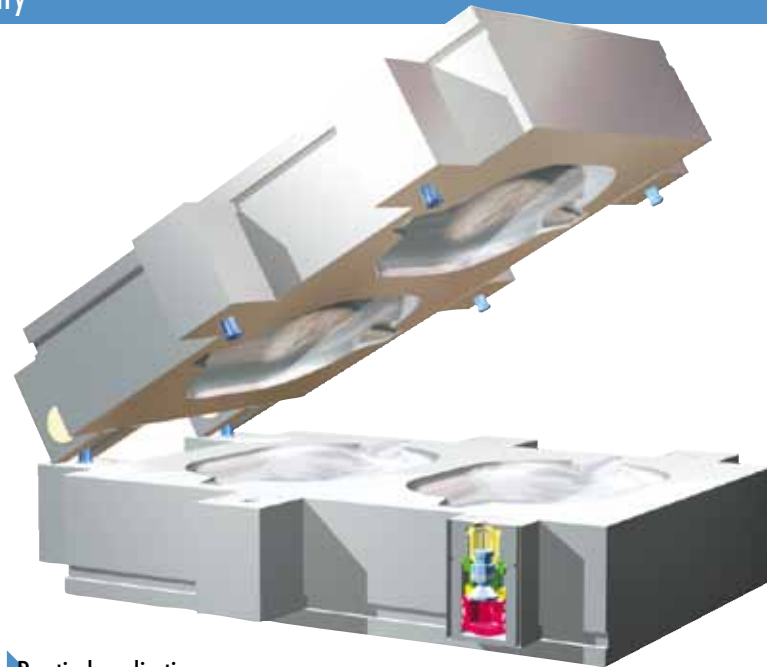
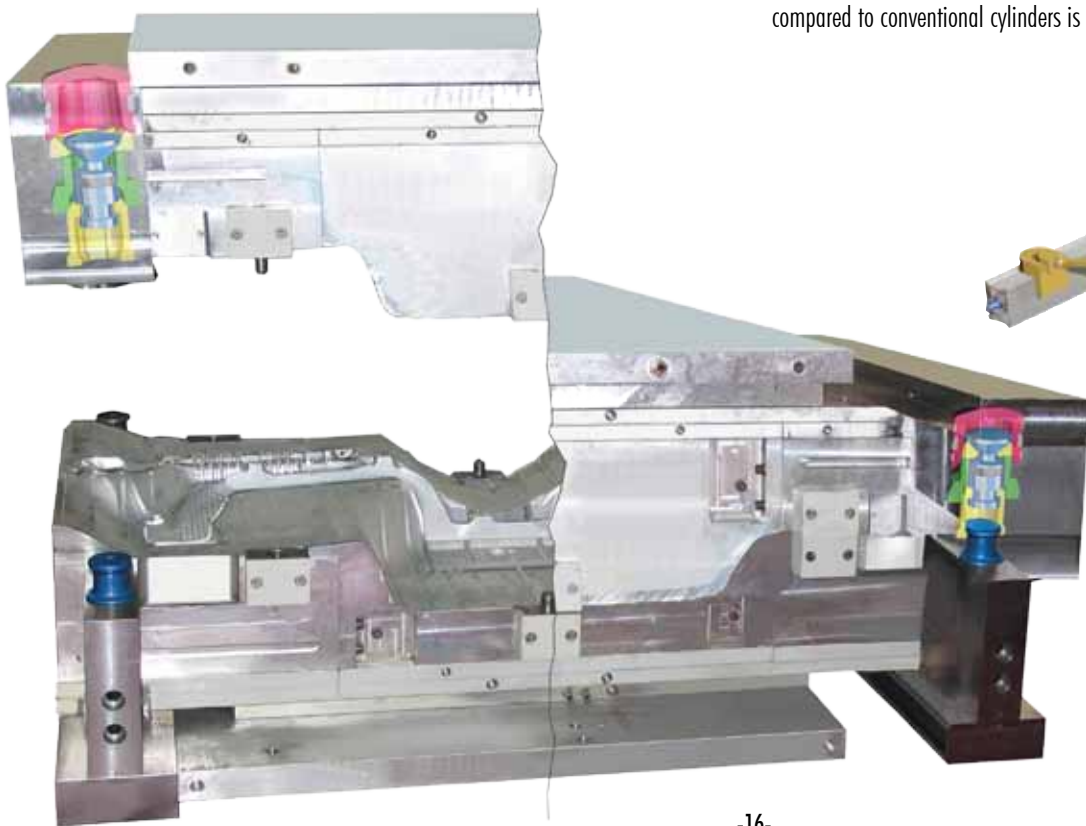
Phase 4

Typical applications

- Quick release tapers or hollow shaft retainers
- Tool clamping systems
- Workpiece straps
- Closing and locking of foaming tools
- Coupling of milling heads
- Clamping of milling heads in serrations
- Coupling milling machine tables
- Coupling extruder heads
- Locking of container lids
- Locking of multi couplings

CyTrac is a universally applied connecting element that fulfils most of the demands made by flexible production systems. It is suitable for use where easy but precise coupling of component assemblies is required within an automatic production process.

Typical applications for the automatic screw are to be found in the plastic manufacturing or machine tool building industries.



Practical application

Closing systems for foaming and blow forming machines

Clamping the two halves of the frame in foaming and blowform tools plays an important role in product quality. Because of this, oversize support frames are often used to absorb the pressure in the tool.

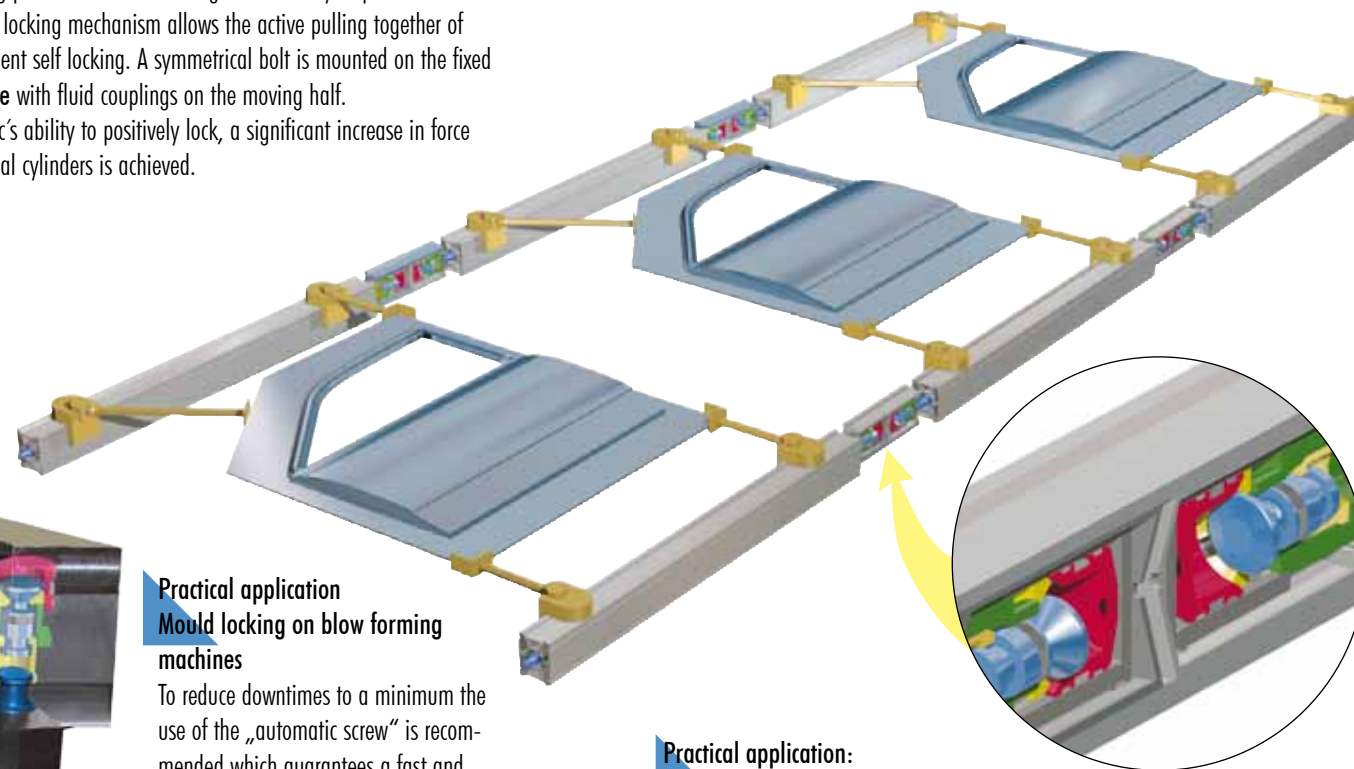
CyTrac units make things much easier. They allow the force to be transferred directly via the clamping plates so that the closing frame is only responsible for the motion. The pre-loaded locking mechanism allows the active pulling together of both parts with subsequent self locking. A symmetrical bolt is mounted on the fixed half and a **CyTrac Scope** with fluid couplings on the moving half.

In addition to the CyTrac's ability to positively lock, a significant increase in force compared to conventional cylinders is achieved.

Practical application

Mould locking on blow forming machines

To reduce downtimes to a minimum the use of the „automatic screw“ is recommended which guarantees a fast and safe locking of both mould halves even with high counter pressure.

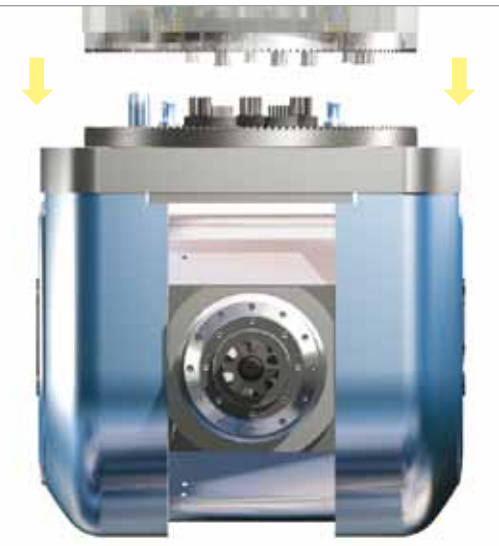
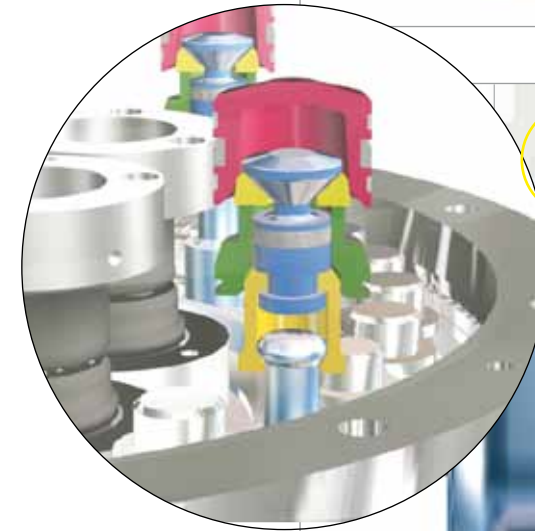


In the machine tool industry many applications for tool clamping and workpiece support present themselves. For tool clamping with special interfaces the **CyTwist** (automatic spindle clamping system) and the **CyTool** (manual clamping system) are available (Page 24/25).

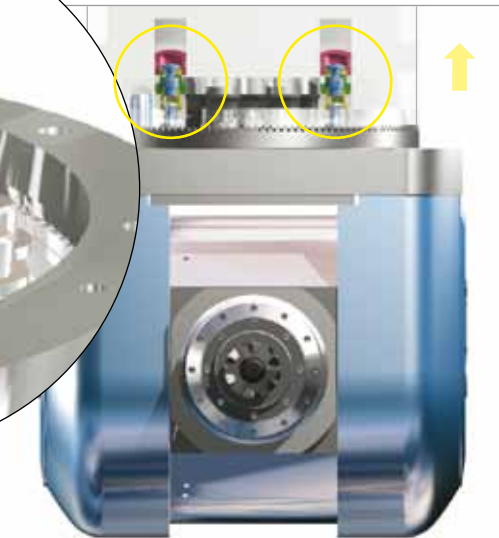
Practical application

Automatic changing of milling heads

An optimal machine utilization is released with the option of automatic head or spindle exchange. CyTrac enables safe docking and locking of head or spindle. The system is integrated in the ram refl. the spindle housing and grabs the corresponding clamping bolt whilst feeding. So head and spindle can be adapted to the appropriate milling demand of the workpiece simply and precisely.

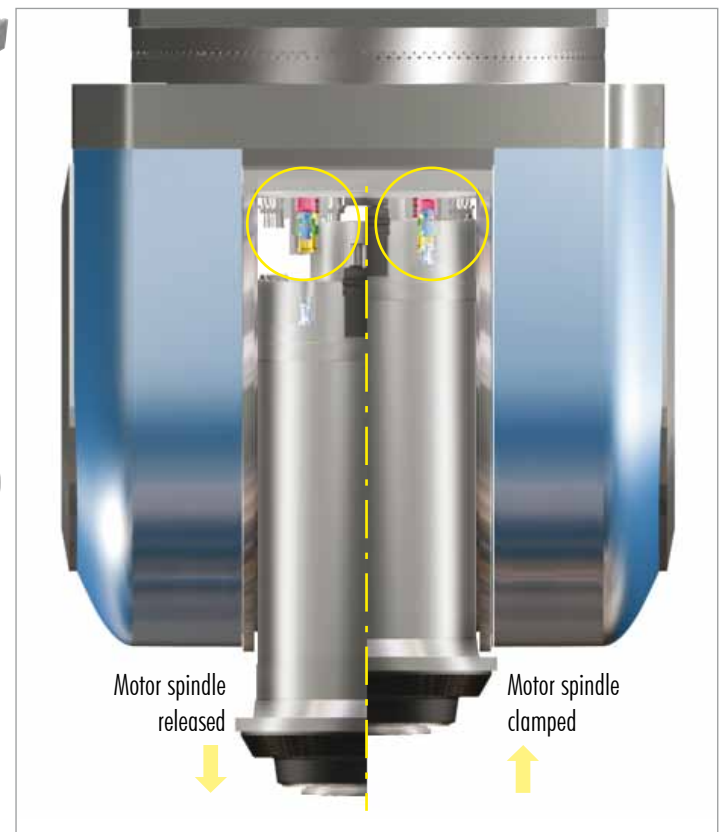


Milling head released



Milling head clamped

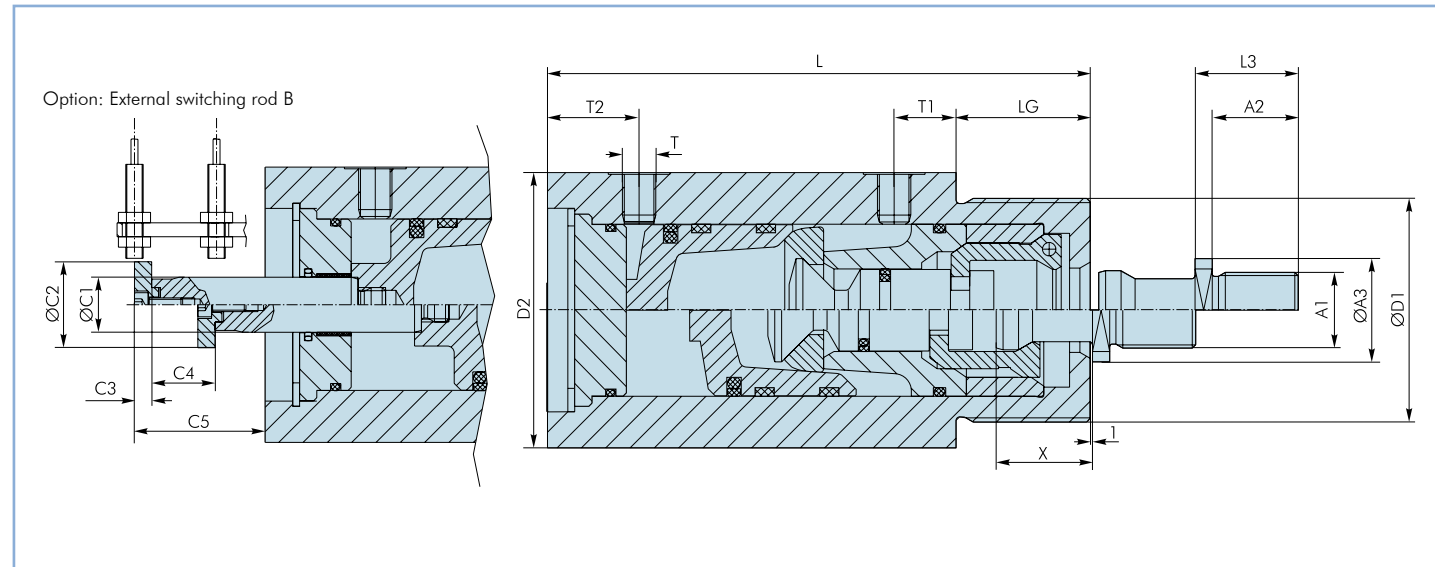
Practical application:
Coupling of walking beams in transfer systems on single presses of press lines.



Motor spindle released

Motor spindle clamped

Dimensions, forces and clamping stroke



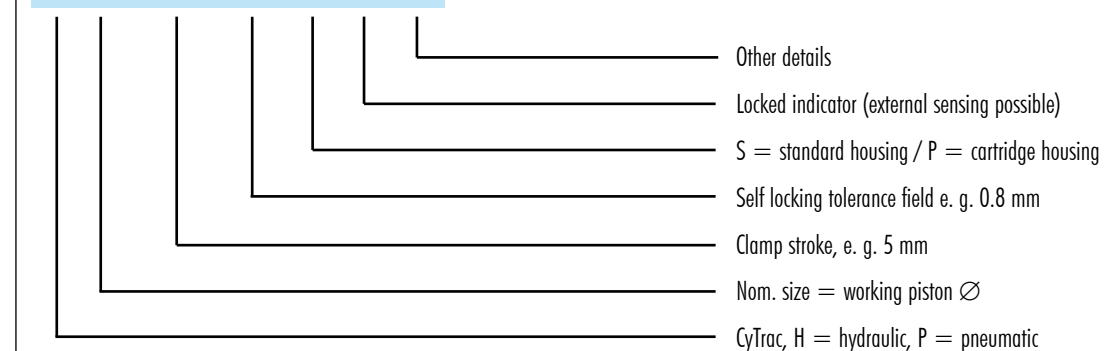
Dimensions standard housing

Nom. size	A1	A2	ØA3	L3	T	T1	T2	D1	D2	L	LG	C1	C2	C3	≈C4	≈C5	X
25	M 12x1,25	13	15	18	1/8"	16	29	M 35x1,5	50	116	19	10	20	5	11	28	15
35	M 16x1,5	18	20	23	1/8"	16	31	M 45x1,5	60	138	28	12	20	5	13	30	20
40	M 16x1,5	18	20	23	1/8"	16	31	M 55x2	70	143	31	12	20	5	15	31	20
50	M 22x1,5	25	30	30	1/8"	18	32	M 65x2	80	166	39	16	25	5	18	38	27
60	M 35x1,5	35	36	40	1/4"	19,5	43,5	M 75x2	90	192	46	16	25	5	22	39	26
70	M 35x1,5	45	55	50	1/4"	19,5	43,5	M 85x2	100	196	52	16	25	5	20	41	43,5
100	M 65x1,5	65	75	70	3/8"	20,5	49,5	M 125x2	130	253	72	20	30	5	29	47	47
125	M 65x1,5	65	75	70	3/8"	22,5	49,5	M 150x2	160	310	95	20	30	5	31	63	53,5

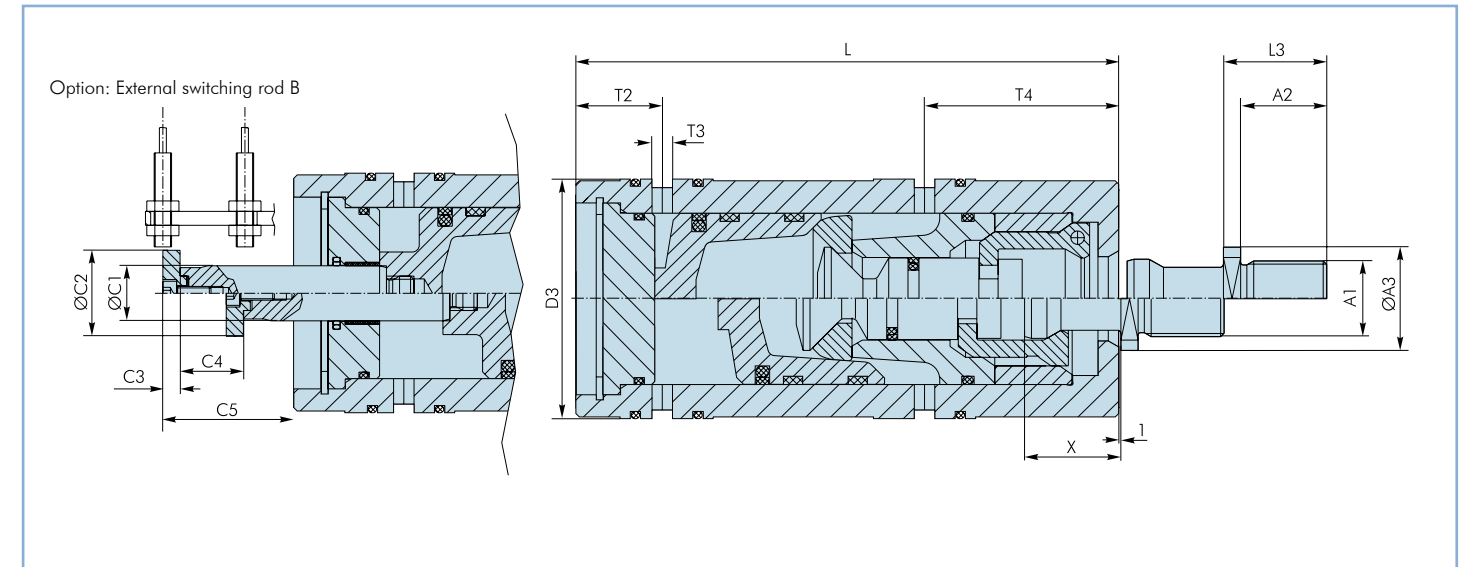
Intermediate sizes on request

Order codes (example):

STH 035 / 0050 - 0,8 - P - B - _



On www.cytec.de you find installation drawings as DXF in the submenu "Downloads".



Dimensions cartridge housing

Nom. size	A1	A2	ØA3	L3	T2	T3	T4	D3	L	C1	C2	C3	≈C4	≈C5	X
25	M 12x1,25	13	15	18	29	6	35	40	116	10	20	5	11	28	15
35	M 16x1,5	18	20	23	31	5	44	50	138	12	20	5	13,5	30	20
40	M 16x1,5	18	20	23	31	5	47	60	143	12	20	5	15	31	20
50	M 22x1,5	25	30	30	32	6	57	70	166	16	25	5	18,5	38	27
60	M 35x1,5	35	36	40	43,5	8	65,5	80	192	16	25	5	21,5	38,5	26
70	M 35x1,5	45	55	50	43,5	8	71,5	90	196	16	25	5	19,5	41	43,5
100	M 65x1,5	65	75	70	49,5	10	94,5	120	253	20	30	5	29	47	47
125	M 65x1,5	65	75	70	49,5	10	116,5	150	310	20	30	5	31	63	54,5

Intermediate sizes on request

Forces and clamping strokes

NG	max. poss. clamping force* (kN)	Clamping force (kN)		Clamping tolerance** (mm) (Standard)	Total stroke (mm)	Clamping stroke (mm)
	Hydraulics 70 bar	Pneumatics 6 bar				
25	11	1,1	0,8	3,3	2,8	
35	20,5	2,1	0,8	5,0	4,4	
40	27	2,9	0,8	6,0	5,4	
50	40,5	4,5	1,0	6,5	5,9	
60	-***	6,4	1,0	8,5	7,8	
70	81	9,0	1,0	7,5	6,8	
100	171	18	1,0	11,0	10,3	
125	270	28	1,5	12,6	11,5	

* equal to the max. possible holding force (only hydraulics); **Changes possible on request; ***only available as pneumatic version