

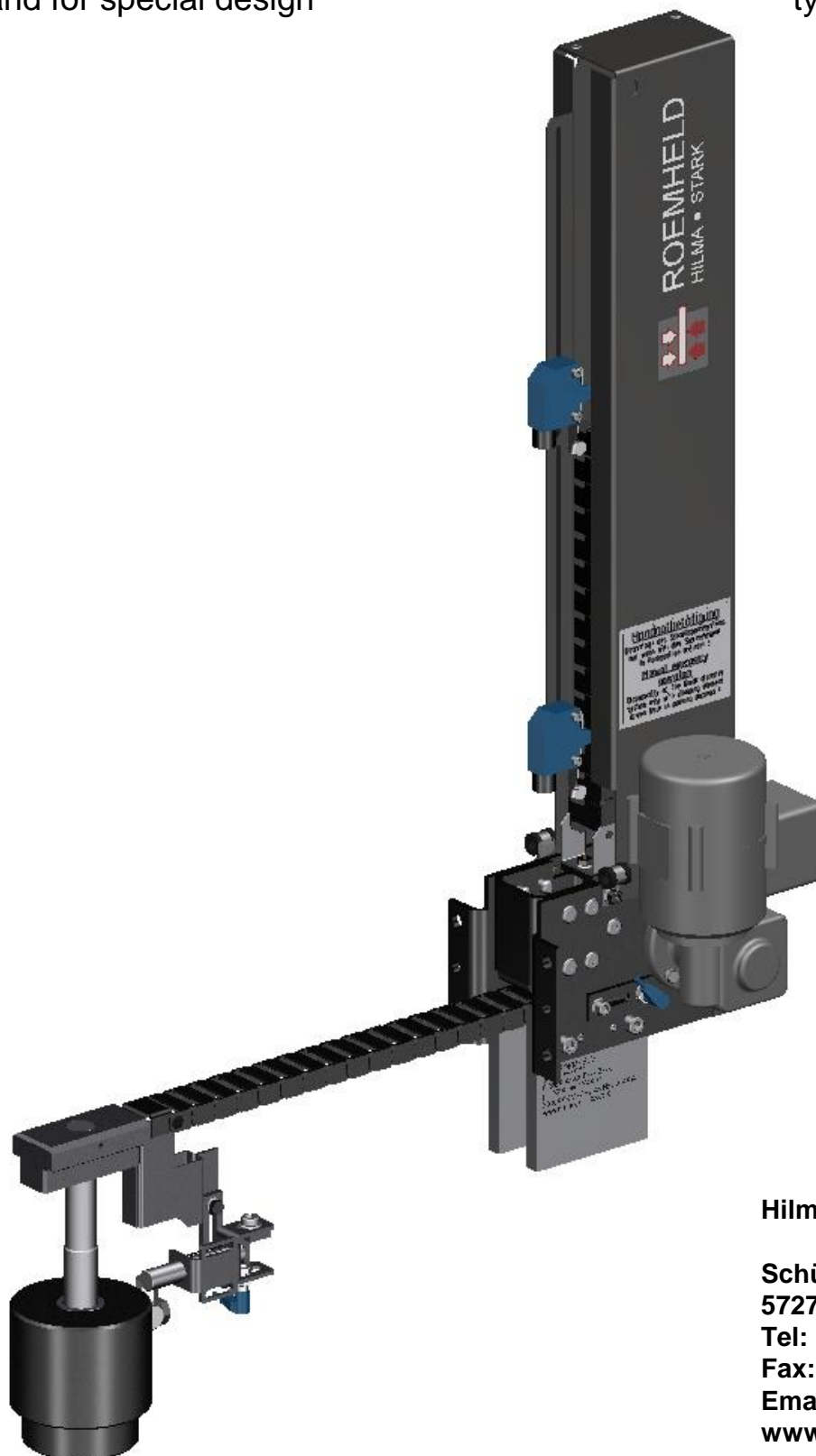


Operating manual

including installation and assembly instructions
for incomplete machines as per Machinery Directive 2006/42/EC

for **quick die clamping system** with pusher chain
(and for special design)

type **8.228x.xxxx**
type **8.229x.8xxx**



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Sep. 20 - Printed in Germany - Änderungen vorbehalten - Subject in modification

In order to ensure safe and reliable operation, these instructions should be read carefully before the bars are installed and put to use

1 General information, safety information

1.1 General

Hilma-Römhheld quick die clamping systems have been tested for safe and reliable functioning, and they are intended for use within the limits of the technical data specified. Failure to observe these limits may put the operator at risk and lead to malfunctioning of the machine. Unauthorised modification of Hilma-Römhheld quick die clamping systems is prohibited for reasons of safety and will lead to an invalidation of the warranty.

1.2 Field of application

Hilma-Römhheld quick die clamping systems with motor-driven movable clamping elements are designed for fully-automatic clamping of dies of different sizes, preferably for die clamping on the press ram.

The quick die clamping system is fastened to the face of the press ram. Up to the interface 'quick die clamping system - machine' it is completely prepared hydraulically and electrically and ready for connection. The electrical interface for the sensory mechanism and the drive motor is designed as Harting plug. This ensures rapid and easy installation and removal even with the die being mounted.

1.3 Working parameters

The load values specified for Hilma Römhheld quick die clamping systems must not be exceeded. The maximum operating pressure must not be exceeded (see chapter 3, Technical data, main dimensions).



1.4 Temperatures

The maximum service temperature of the standard design is 70 °C. For higher temperatures, special designs should be used.

1.5 Important safety precautions

- For installation of the clamps only use suitable connecting elements (see chapter 4, installation).
- Before commencing installation and repair work disconnect hydraulic and electrical connections.
- Do not exceed the specified pressures and temperatures.
- When adjusting the clamps and during clamping and unclamping, keep your hands or tools away from the working area of the clamps.

The operator shall be fully instructed before using quick die clamping systems.

Persons less than 16 years old should not operate the system. Young persons who are older than 16 years are allowed to operate the system as part of their professional training, but only under supervision. The operating instructions must be readily accessible to the operator. The operator shall advise third persons of possible dangers in the working area.

1.6 Declaration

The Quick die clamping system with pusher chain have been developed, designed and manufactured in conformity with the EC directive 'Machinery' 2006/42/EC.

2 Design and function

2.1 Design

The quick die clamping system is composed of two subassemblies:

1. The clamping element with T-slot adapter which is guided in the T-slot of the press.
2. The travelling clamping element comprising the travelling drive (motor, worm gear, energy and driving chain) and the parking station. Parking position and die clamping position are monitored by inductive proximity switches, the maximum travelling distance (final position, depending on the model) by a mechanical micro switch

Hydraulic hoses and electric cables leading from the machine to the clamping element are well protected in an energy chain. The chain which is guided in a chain box also serves as driving chain for the clamping element.

2.2 Functional description

- Clamping

The clamping element in the parking station (parking position) is hydraulically unclamped (depending on the model) and then moved towards the die by the energy chain which engages in the T-slot adapter of the clamping element and which is driven by an electric motor, via a worm gear.

Once the die clamping position has been reached, the proximity switch 'Die position' is activated, and the movement is stopped by switching off the drive motor. The clamping method depends on the clamping element. If the clamping element is fully mechanical, e.g. hollow piston cylinders, sliding clamps or clamping cylinders with lock, the die is clamped by applying pressure. If the clamping element is mechanical-hydraulic, e.g. spring clamping cylinders, the die is clamped by pressure relief.

- Unclamping

For changing the die, first the clamping element is unclamped and pulled back into the parking position by means of the chain drive. Once the parking position has been reached, the proximity switch 'Parking position' gives the signal for switching off the drive motor. In the parking position, the clamping element is again clamped.

During a die change it is not necessary to clamp the clamping elements in the parking station!



3 Technical data, main dimensions

Travelling drive

| | |
|-------------------|-----------------------------------------|
| Three phase motor | 400 V ±10% / 50 Hz (480 V ±10% / 60 Hz) |
| or | 380 V ±10% / 50 Hz (460 V ±10% / 60 Hz) |
| Rated motor power | 0.18 A |
| Output | 0.045 kW |
| Travelling speed | 150 mm/s |

1. Hollow piston cylinder, single acting / double acting - 400 bar // 245 bar

| | | |
|---------------------------------------|----------------------|-------------------------|
| Clamping force | 104 kN | // 100 kN |
| Clamping stroke | St | 8 mm |
| Total stroke | S | 12 mm |
| Dimensions ØD x L | Ø90 x 105 / Ø95 x 87 | // 100 x 112 / 105 x 87 |
| Operating pressure | 400 bar | // 245 bar |
| Oil consumption clamping / unclamping | 2,7 / 2,7 cm³/mm | // 4,1 / 4,1 cm³/mm |

2. Spring clamping cylinder, single acting

| | | |
|---------------------------------|----|------------|
| Clamping force | | 100 kN |
| Clamping stroke | St | 1 mm |
| Total stroke | S | 7 mm |
| Dimensions ØD x L | | Ø120 x 134 |
| Operating pressure (unclamping) | | 260 bar |
| Oil consumption unclamping | | 7,9 cm³/mm |

3. Clamping cylinder with mechanical lock, double acting

| | | |
|---------------------------------------|----|----------------|
| Clamping force | | 100 kN |
| Clamping stroke | St | 4 mm |
| Total stroke | S | 8 mm |
| Dimensions ØD x L | | Ø100 x 128 |
| Operating pressure max. | | 100 bar |
| Oil consumption clamping / unclamping | | 22 / 23 cm³/mm |

4. Sliding clamp, single acting / double acting

| | | |
|---------------------------------------|----|----------------|
| Clamping force | | 78 kN |
| Clamping stroke | St | 8 mm |
| Total stroke | S | 12 mm |
| Dimensions D x L | | 80 x 75 |
| Operating pressure | | 400 bar |
| Oil consumption clamping / unclamping | | 2 / 1,5 cm³/mm |

Inductive proximity switch S1+S2 / Limit switch S3+S4

| | |
|--------------|--------------------------------------------|
| Manufacturer | Balluff |
| Type (S1+S2) | BES M08EC-PSC20B-S49G |
| Voltage | 24 (10-30) V DC |
| Manufacturer | Panasonic |
| Type (S3+S4) | from April 2017 AZ7121 (so far AZH1021CEJ) |

Electrical interface

| | |
|-------------------------------------|-----------------------|
| Harting plug motor + limit switches | HAN 10 ES modular 3x5 |
| Harting plug motor | HAN 3 HvE / HAN 6 ES |
| Harting plug limit switches | HAN 10 E / HAN 10 ES |

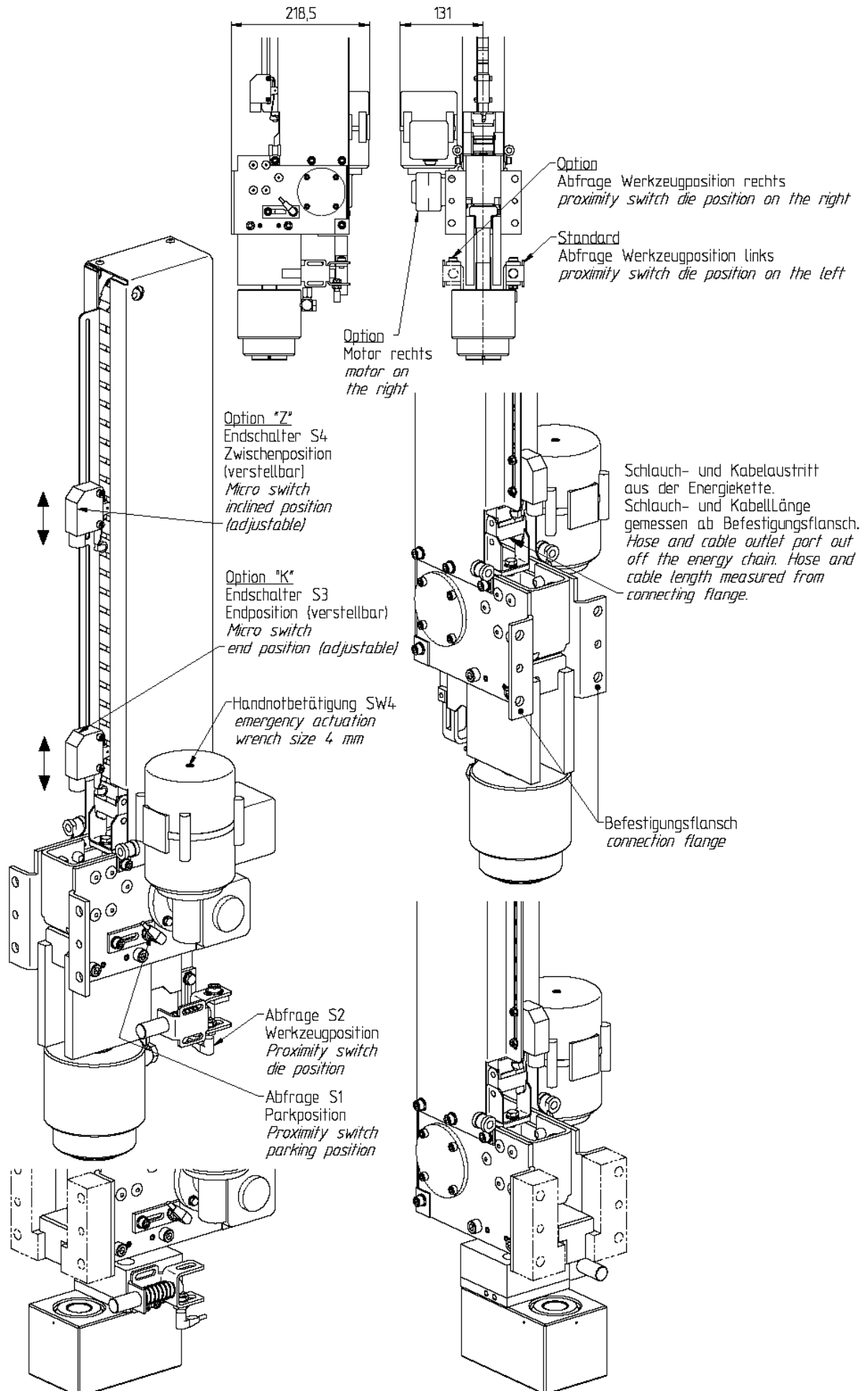
Hydraulic interface

| | |
|-----------------------------|-------------------------------------|
| Port A | for clamping the clamping element |
| Port B | for unclamping the clamping element |
| Port with M16x1.5 union nut | pipe Ø8 |

Functional dimensions

| | |
|--------------------------------------------|-----------------------------------|
| t-slot width a | 28 / (32) / 36 mm |
| Clamping dimension F (tolerance: ± St / 2) | min. 70 / max. 112 mm (F = c + m) |
| t-slot web height c | |
| Die clamping edge m | |
| Height H | 577 / 657 / 797 mm |
| Travel distance max. V | 660 / 820 / 1100 mm |
| Inclined position Z | |
| End Position K | |

Listed are the data of standard types. Drawings of special versions on request.

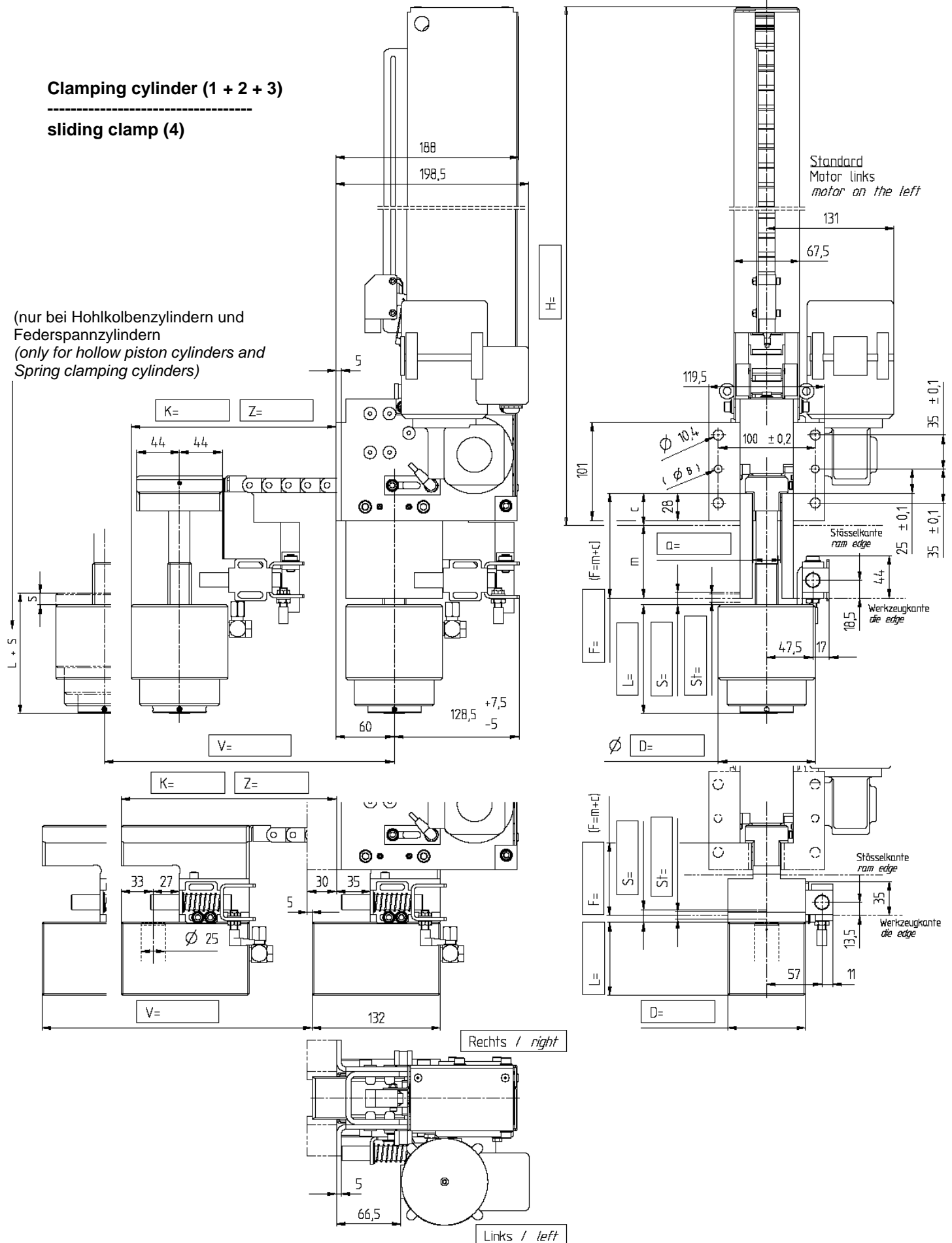




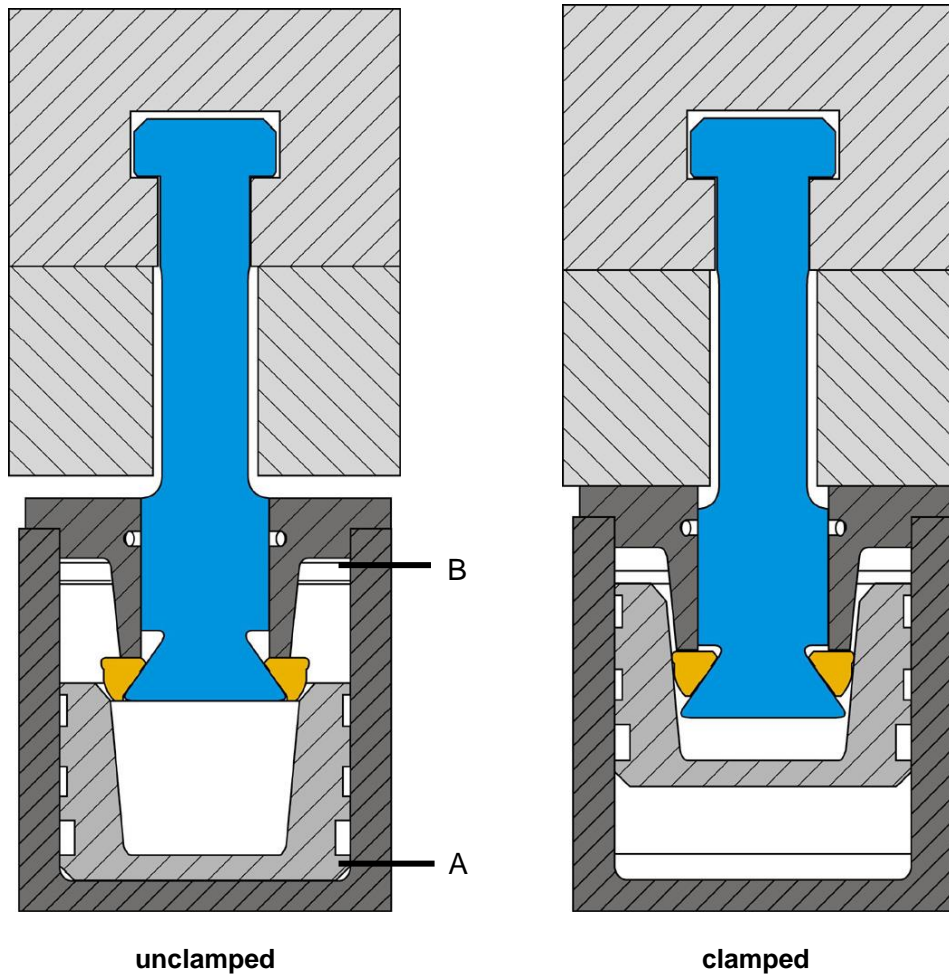
Clamping cylinder (1 + 2 + 3)

sliding clamp (4)

(nur bei Hohlkolbenzylindern und
Federspannzylindern
(only for hollow piston cylinders and
Spring clamping cylinders)



Clamping cylinder with mechanical lock



Function:

For clamping dies on the ram if the clamping force must be maintained by self-locking in the event of a hydraulic pressure drop.

Pressure is applied to port "A", the clamping cylinder moves towards the clamping edge.

Once the clamping cylinder has become in contact with the dies clamping surface, the max. clamping force is applied and the clamping element locks mechanically.

Mechanical self-locking ensures that the full clamping force will be maintained in the event of pressure drop.

For safety reasons it is recommended that the hydraulic pressure is maintained.

For unclamping relieve pressure at port "A" and apply pressure to port "B".

For clamping cylinders with mechanical lock, sufficient time ($t > 10s$) for hydraulic clamping and unclamping must be allowed for in the control sequence following the instant at which nominal pressure (100 bar) is reached, in order to prevent the pump from switching off before reaching either the clamping force or the unclamping position as a result of dynamic pressure and to ensure safe locking once the clamping force has been achieved.



4 Installation and connection

4.1 Installation

Drive roll pins 8x20 into the drill holes. Move the quick die clamping system towards the press ram using appropriate hoists and push it onto the roll pins.

Insert fastening screws M10x20-8.8 and tighten them by applying a torque of 45 Nm.

The T-slots in the ram and in the parking station must be in horizontal alignment.

Any offset must be eliminated (by chamfering).

For the pattern of the fastening holes, please refer to the drawing in chapter 3 (Technical data, main dimensions).

4.2 Hydraulic connection

Connect the quick die clamping system which is ready for connection up to the interface 'quick die clamping system - machine' using suitable screw fittings (for connections, see chapter 3 'Technical data, main dimensions'). The hydraulic lines on the machine side must be sufficiently dimensioned (8x1.5 DIN EN 10305-1 - E235N or larger) and installed in accordance with the specifications (DIN EN ISO 4413) and in conformity with the state of the art applicable to high-pressure hydraulics. Pipes should be as short as possible. For single acting cylinders with spring return, the maximum length should be 5 m, for double acting cylinders longer pipes may be used. Pipe bends should have a large radius.

A neat installation is a prerequisite for troublefree operation of the system. Make sure that the pipe ends are free from burrs and that pipes, high-pressure hoses and screw fittings are cleaned and blown through. Protective plugs should only be removed right before connecting the hydraulic system.

4.3 Electrical connection

Pin assignment for Harting plugs:

HAN 3 HvE (motor)

| M1 | Contact |
|----|---------|
| U1 | 3 |
| V1 | 7 |
| W1 | 9 |
| PE | PE |

alternative:

HAN 6 ES (motor)

| M1 | Contact |
|----|---------|
| U1 | 1 |
| V1 | 2 |
| W1 | 3 |
| PE | PE |

HAN 10 E / ES (limit switches)

| | | Contact |
|-------------------------------------|------------|---------|
| parking position | Brown + | 1 |
| | Blue - | 2 |
| | Black | 3 |
| die position | Brown + | 1 |
| | Blue - | 2 |
| | Black | 4 |
| end position OPTIONAL EXTRA | Brown + | 1 |
| | Red N.O. | 6 |
| | Black N.C. | 5 |
| inclined position OPTIONAL EXTRA | Brown + | 1 |
| | Red N.O. | 8 |
| | Black N.C. | 7 |
| | | PE |

alternative:

HAN 10 ES modular 3x5 (motor + limit switches)

| M1 | Modul | Contact | | Modul | Contact |
|----|-------|---------|---------------------------------------|------------|---------|
| U1 | A | 1 | parking position | Brown + | B 1 |
| V1 | A | 2 | | Blue - | B 2 |
| W1 | A | 3 | | Black | B 3 |
| | | 4 | die position | Brown + | B 1 |
| | | 5 | | Blue - | B 2 |
| | | | | Black | B 4 |
| | | | end position K OPTIONAL EXTRA | Brown + | B 1 |
| | | | | Red N.O. | C 1 |
| | | | | Black N.C. | C 2 |
| | | | inclined position Z OPTIONAL EXTRA | Brown + | B 1 |
| | | | | Red N.O. | C 3 |
| | | | | Black N.C. | C 4 |
| PE | | PE | | | |



alternative:

Pin assignment as at Quick Die Clamping Systems Type 2290:

HAN 3 HvE „2290“ (motor)

| M1 | Contact |
|----|---------|
| U1 | 3 |
| V1 | 7 |
| W1 | 9 |
| PE | PE |

alternative:

HAN 6 ES „2290“ (motor)

| M1 | Contact |
|----|---------|
| U1 | 1 |
| V1 | 2 |
| W1 | 3 |
| PE | PE |

HAN 10 E / ES „2290“ (limit switches)

| | | Kontakt |
|------------------------------------|----------|---------|
| Parking position | Brown + | 1 |
| | Blue - | 2 |
| | Black | 3 |
| S1 Die position | Brown + | 4 |
| | Blue - | 5 |
| | Black | 6 |
| S2 <i>End position</i> | Brown + | 7 |
| | Red N.O. | 9 |
| | | |
| <i>OPTIONAL EXTRA</i> S3 | | |
| | | |
| | | |
| | | PE |

4.4 Putting into operation

Read the operating manual before putting the system into operation!

Only use clean and fresh oil. Bleed (flush) the complete system at low pressure (=20 bar) at the highest point, in order to eliminate any bubbles.

Clamp and unclamp the clamping elements in the parking station several times. Check whether clamping and unclamping runs off smoothly.

Check the hydraulic system for tightness by a visual inspection of the pipes and hoses, screw fittings and clamping elements while pressure is applied.

! In the adjusting mode !

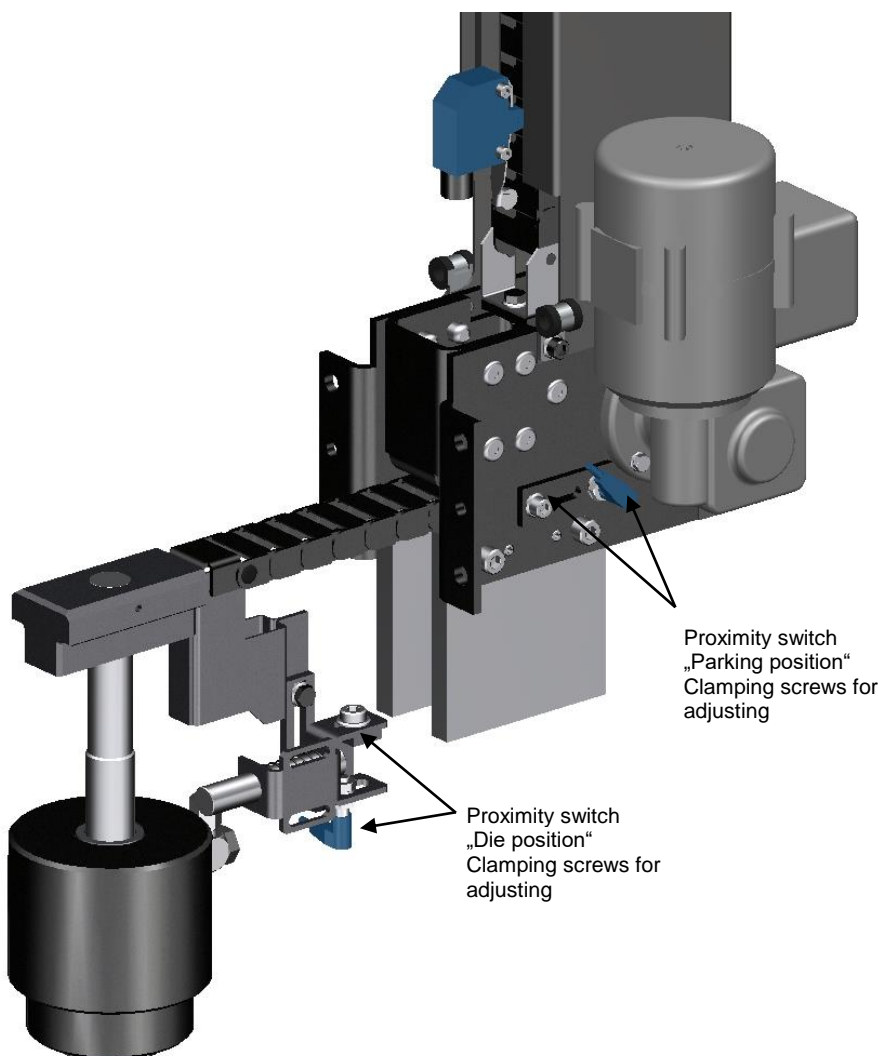
Move the clamping elements several times into the die clamping position and back into the parking position. Check the drive for smooth run (motor, energy chain) and the proximity switches for perfect function.



ATTENTION: When adjusting, clamping and unclamping the clamping elements, keep hands and tools off their moving range.
DANGER OF INJURY!

Proximity switches:

In view of the high travelling speed of the quick die clamping system (150 mm/s) and the different response speeds of machine controls (e.g. 100 ms correspond to 15 mm travel, i.e. after-running of the drive motor!) it may be necessary to readjust the factory-set values for 'parking position' and 'die position'.



IMPORTANT:

1. Abutting against the inner stop in the parking position must be prevented by adjusting the proximity switch 'Parking position'.
2. In the die clamping position, the clamping element must freely hang in the T-slot when the drive motor has stopped, without being in contact with the die or the ram. Otherwise, the proximity switch 'Die position' must be readjusted.

Control:

In the case of *single acting clamping elements*, a sufficient period of time ($t > 10s$) should be provided in the control cycle between unclamping and travelling the clamping elements, in order to ensure that the clamping element is unclamped before travelling is started.

In the case of *clamping cylinders with mechanical lock*, sufficient time ($t > 10s$) for hydraulic clamping and unclamping must be allowed for in the control sequence following the instant at which nominal pressure (100 bar) is reached, in order to prevent the pump from switching off before reaching either the clamping force or the unclamping position as a result of dynamic pressure and to ensure safe locking once the clamping force has been achieved.



The required periods of time may vary, depending on the design of the hydraulic system of the machine (pipe cross sections, hose lengths, position and delivery of the pump unit, etc.). The indicated values may require adjustment to suit the system parameters.



If travelling of the clamping element is impeded or blocked by mechanical obstructions, or if no die is in the machine so that the clamping element travels until the end of the chain, the drive motor must be switched off **by the protective motor switch to be provided in the control system (observe rated motor power)!**

(The limit switch for monitoring the final position resp. the inclined position is activated at the adjusted position of the drive chain and switches off the drive motor.)

When moving the clamping element for clamping or unclamping, make sure that the ram lies on the die and that the die is closed.

Clamping elements which are temporarily not needed, e.g. when clamping small dies, must remain in the parking position in clamped condition.



5 Trouble shooting

When being delivered, the quick die clamping system is in perfect condition. All functions have been checked, and necessary adjustments have been made.

If malfunction should occur although the information contained in chapters 4.0 (Installation and connection) and 5.0 (Putting into operation) has been duly observed, please try to find out the cause using the table below.

| Failure | Possible cause | Remedial action |
|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Clamping element does not leave the parking station. | Drive motor power supply interrupted / incorrect. Proximity switch ' <i>Parking position</i> ' / cable defective. (no signal ' <i>Parking position reached</i> ' for the control) | Check all plug-in connections, contacts and cables. Check the sense of rotation of the drive motor. => Check / replace proximity switch / cable (Observe chapter 6 Maintenance) |
| Proximity switch ' <i>Die position</i> ' does not switch. | Contact surface on the die edge is not sufficient for the pin for proximity switch activation. Power supply / signal return line interrupted. Proximity switch / cable defective. | Provide sufficient contact surface on the die edge. Check all plug-in connections, contacts and cables. => Check / replace proximity switch / cable. (Observe chapter 6 Maintenance) |
| Clamping element does not clamp / unclamp. | Hydraulic supply interrupted / not correct. | Check hydraulic pipes and hoses up to the pump unit. Check for correct connection (clamping / unclamping). |
| Clamping element does not return from the die position to the parking position. | Clamping element not yet unclamped. Die is not closed, ram does not lie on the die (the die <i>hangs</i> on the unclamped clamping element). | See „ <i>Clamping element does not clamp / unclamp</i> “. In case of single acting clamping element and clamping cylinder with lock, check the periods of time (see chapter 4.4 'Putting into operation / control') Make sure that the clamping element is only returned with the die being closed !To be integrated in the control system ! |
| Proximity switch ' <i>Parking position</i> ' does not switch. | Power supply / signal return line interrupted. Proximity switch / cable defective. | Check all plug-in connections, contacts and cables. => Check / replace proximity switch / cable. (Observe chapter 6 Maintenance) |

6 Maintenance

Hydraulic valves are very sensitive to dirt. Make sure that no impurities get into the hydraulic fluid. We recommend to change the oil once a year.

When carrying out routine maintenance work on the press:

- inspect the electrical connections (plugs, cables) for damage
- check the hydraulic system for tightness
- inspect the energy and driving chain
- clean and lubricate the T-slot as may be necessary (approx. every 12 weeks).

For the list of spare parts please refer to chapter 7.0 (Technical appendix).

In the case of failures it is recommended to replace the quick die clamping system by another one in order to reduce press downtimes. The repair can then be carried out off the press (if necessary in our premises in Hilchenbach).

Overstress of the clamping elements (e.g. cramping of the tool during operation of the press, not parallel („angular“) clamping, incorrect clamping) **can be the cause of their breakdown in following operation. For safety reasons we recommend strongly to send the corresponding clamping elements for checking to our factory at Hilchenbach (Germany).**



ATTENTION

Before removing the quick die clamping system, pull off the Harting-plug and disconnect hydraulic connections!

Make sure that the clamping element has returned into the parking station before commencing disassembly of the quick die clamping system!

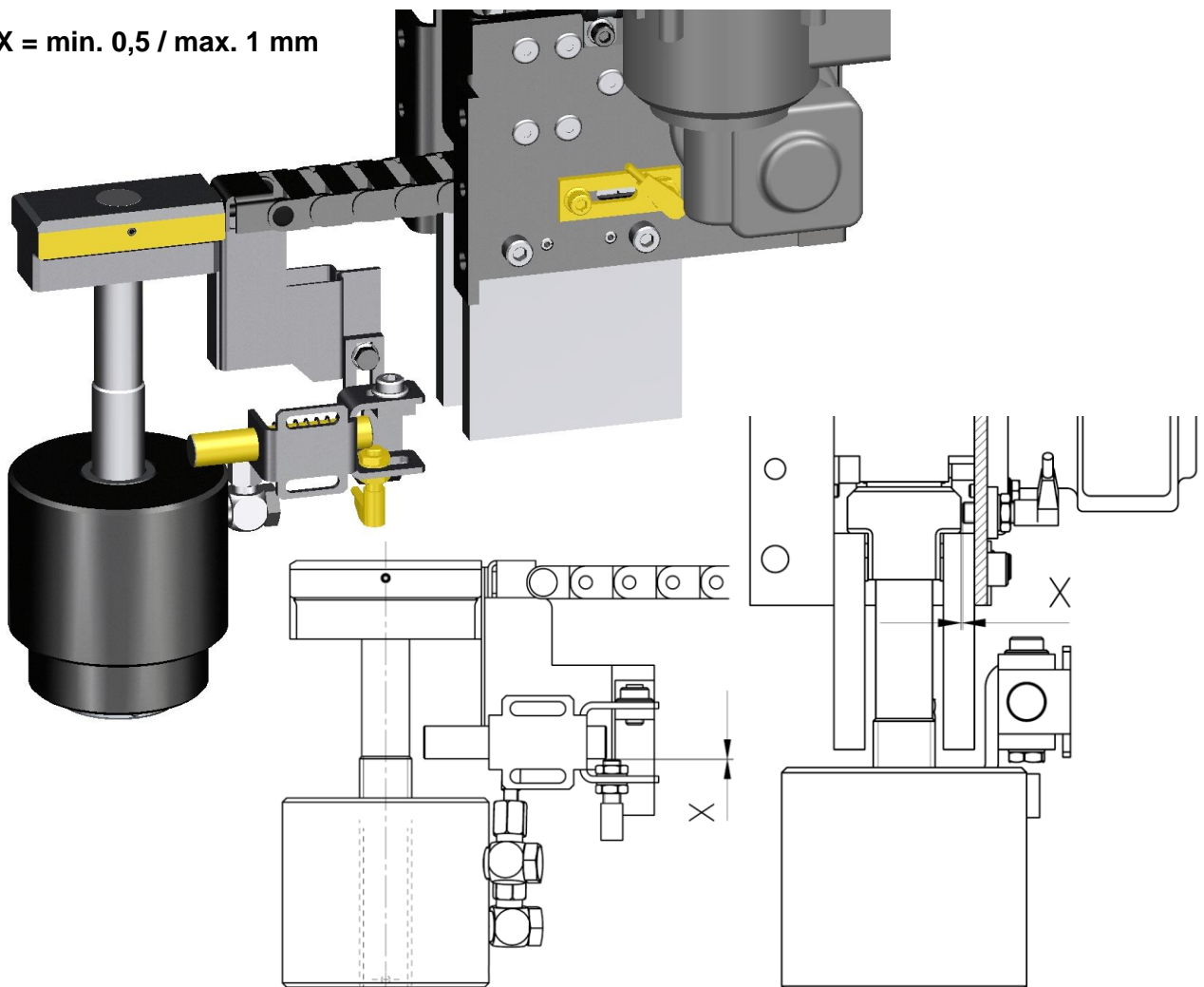
If motor-driven travel is not possible, use the **manual emergency mode** (hexagon socket in the motor shaft on the fan side)!

After having replaced the quick die clamping system, clamp and unclamp the clamping element in the parking station several times in order to bleed the system through the pump unit (the same applies when hydraulic connections have been disconnected).

For putting the system into operation, please observe chapters 4.0 (Installation and connection) and 5.0 (Putting into operation).

When replacing defective proximity switches (which is possible with the quick die system being installed), observe the following dimensions :

X = min. 0,5 / max. 1 mm





7 Technical appendix

7.1 List of spare parts for standard types

F and a please refer to chapter 3 (Technical data, main dimensions)

| Clamping element | No. | | necessary data | Order-No. |
|--------------------------------------------------------------------------------------------------------|----------------|-------------------|----------------------------------------------------|-------------|
| Hollow piston cylinder double acting complete (including tie rod and T-clamping head) | HPC "0" | 104 kN at 400 bar | F = ? a = ? | 7.2280.0200 |
| Hollow piston cylinder double acting | | 104 kN at 400 bar | | 8.1345.1223 |
| Hollow piston cylinder single acting complete (including tie rod and T-clamping head) | HPC "1" | 104 kN at 400 bar | F = ? a = ? | 7.2280.0201 |
| Hollow piston cylinder single acting | | 104 kN at 400 bar | | 8.2135.0132 |
| Hollow piston cylinder double acting complete (including tie rod and T-clamping head) | HPC "2" | 100 kN at 245 bar | F = ? a = ? | 7.2280.0202 |
| Hollow piston cylinder double acting | | 100 kN at 245 bar | | 8.1345.1225 |
| Hollow piston cylinder single acting complete (including tie rod and T-clamping head) | HPC "3" | 100 kN at 245 bar | F = ? a = ? | 7.2280.0203 |
| Hollow piston cylinder single acting | | 100 kN at 245 bar | | 8.2135.8070 |
| Clamping cylinder with mechanical lock, double acting complete (including tie rod and T-clamping head) | "4" | 100 kN at 100 bar | F = ? a = ? | 7.2280.0204 |
| Spring clamping cylinder single acting complete (including tie rod and T-clamping head) | "5" | 100 kN / 260 bar | F = ? a = ? | 7.2280.0205 |
| Spring clamping cylinder single acting | | 100 kN / 260 bar | | 8.1405.8032 |
| Sliding clamp double acting complete (incl. t-slot adapter) | "6" | 78 kN at 400 bar | F = ? a = ? | 7.2280.0206 |
| Clamping block double acting | | 78 kN at 400 bar | | 8.2205.8069 |
| Sliding clamp single acting complete (incl. t-slot adapter) | "7" | 78 kN at 400 bar | F = ? a = ? | 7.2280.0207 |
| Clamping block single acting | | 78 kN at 400 bar | | 8.2205.1301 |
| Accessories for clamping elements including assembly parts | | | | |
| Tie rod for Hollow piston cylinder complete (incl. T-clamping head) | | | F = ? a = ? HPC No. = ? | 7.2280.0300 |
| Tie rod for Hollow piston cylinder | | | F = ? HPC No. = ? | 7.2280.0310 |
| Tie rod for clamping cylinder with mechan. lock complete (incl. T-clamping head) | | | F = ? a = ? | on request |
| Tie rod for clamping cylinder with mechan. lock | | | F = ? | on request |
| Tie rod for Spring clamping cylinder complete (incl. T-clamping head) | | | F = ? a = ? | 7.2280.0305 |
| Tie rod for Spring clamping cylinder | | | F = ? | on request |
| T-slot adapter for sliding clamps (incl. screws, without spacer plates) | | | F = ? a = ? | on request |
| Seal kits for clamping elements | | | | |
| Seal kit for Hollow piston cylinder double acting | | 104 kN at 400 bar | | 7.1345.0100 |
| Seal kit for Hollow piston cylinder single acting | | 104 kN at 400 bar | | 5700-062 |
| Seal kit for Hollow piston cylinder double acting | | 100 kN at 245 bar | | 7.1345.0101 |
| Seal kit for Hollow piston cylinder single acting | | 100 kN at 245 bar | | 7.1345.0102 |
| Seal kit for Clamping cylinder with mechanical lock | | | | 7.1345.0103 |
| Seal kit for Spring clamping cylinder | | | | 7.1405.0100 |
| Seal kit for Sliding clamp double acting | | | | 7.2205.0101 |
| Seal kit for Sliding clamp single acting | | | | 7.2205.0100 |



| Energy- and pusher chain fitted completely | | necessary data | Order-No. |
|----------------------------------------------------------------------------|--------------------------------------------|------------------------------|-------------|
| Energy and drive chain for single-acting clamping element | T-slot 28 / 1 1/16" Travel path 1100 mm | | 7.2280.0401 |
| Energy and drive chain for double-acting clamping element | T-slot 28 / 1 1/16" Travel path 1100 mm | | 7.2280.0402 |
| Energy and drive chain for single-acting clamping element | T-slot 28 / 1 1/16" Travel path 820 mm | | 7.2280.0403 |
| Energy and drive chain for double-acting clamping element | T-slot 28 / 1 1/16" Travel path 820 mm | | 7.2280.0404 |
| Energy and drive chain for single-acting clamping element | T-slot 28 / 1 1/16" Travel path 660 mm | | 7.2280.0405 |
| Energy and drive chain for double-acting clamping element | T-slot 28 / 1 1/16" Travel path 660 mm | | 7.2280.0406 |
| Energy and drive chain for single-acting clamping element | T-slot 32 / 36 Travel path 1100 mm | | 7.2280.0407 |
| Energy and drive chain for double-acting clamping element | T-slot 32 / 36 Travel path 1100 mm | | 7.2280.0408 |
| Energy and drive chain for single-acting clamping element | T-slot 32 / 36 Travel path 820 mm | | 7.2280.0409 |
| Energy and drive chain for double-acting clamping element | T-slot 32 / 36 Travel path 820 mm | | 7.2280.0410 |
| Energy and drive chain for single-acting clamping element | T-slot 32 / 36 Travel path 660 mm | | 7.2280.0411 |
| Energy and drive chain for double-acting clamping element | T-slot 32 / 36 Travel path 660 mm | | 7.2280.0412 |
| Clamping plate for parking station | | | |
| Clamping plates for cylindrical clamping elements (2 pcs. incl. fasteners) | | F = ? a = ? | 7.2280.0500 |
| Clamping plates for sliding clamps (2 pcs. incl. fasteners) | | F = ? a = ? | 7.2280.0500 |
| Limit switches | | | |
| Proximity switch, inductive, for parking or die position | S1 + S2 | | 2.5012.0107 |
| Connection cable for proximity switch | (S1 + S2) | | 3829-099 |
| Limit switch, mechanical, for end or inclined position | S3 + S4 (so far) | | 2.5013.0018 |
| Limit switch, mechanical, for end or inclined position | S3 + S4 (from April 2017) | | 2.5013.0028 |
| Three-phase motor 400V 50Hz (480V 60Hz) 3~ 45W 0,18A | | | 2.1118.0187 |
| Three-phase motor 400V 50Hz (480V 60Hz) 3~ 45W 0,18A | UL-compliant | | 2.1118.0216 |
| Three-phase motor 380V 50Hz (460V 60Hz) 3~ 45W 0,18A | | | 2.1118.0219 |

Additionally always give the complete name of the quick clamping system when ordering spare parts

8.228X.XXXX FXXX KXXX ZXXX HX GX BX CX
or for special designs 8.2280.8XXX

to ensure the delivery of the right spare part also for customer specific designs.

If repair of the quick die clamping system is necessary, in particular in the case of damaged hydraulic hoses, a defective drive or a defective clamping element, we recommend to replace it by another one and to return the defective system for repair to our factory at Hilchenbach (Germany)!



Declaration of incorporation

as per

**Machinery Directive EC-RL 2006/42/EC
dated June 9, 2006.**

We,

**Hilma- Römheld
Schützenstrasse 74**

57271 Hilchenbach, declare, that the incomplete machine and its variants:

Quick die clamping system with pusher chain

Type 8.228x.xxxx

Type 8.2280.8xxx

as supplied by us has been specifically designed for incorporation into a machine, taking full account of DIN EN ISO 13857. The documentation has been prepared in conformity with appendix VII B. If required, the national authority may receive the documentation as a hard copy by post or by e-mail as a PDF format file. The machine into which the parts are to be integrated must only be put into operation after the conformity of the machine with the above EC directive has been demonstrated. The design of our products is in accordance with DIN EN ISO 4413 and EN 60204-1.

Responsible for the document
Frank Grosche
Schützenstraße 74
D-57271 Hilchenbach

Hilchenbach 12.12.2014
H.- J. Molka
Managing Director



Product monitoring

Quick die clamping system FLEXLINE
Product name:

8 228 _____ F _____ K _____ Z _____ H _____ G _____ B _____ C _____

or

8 2280 8 _____

We are required by law to monitor our products even after their delivery. This concerns, in particular, the following aspects:

- Have operating data or settings been changed?
- Are there experiences with the FLEXLINE that might be important for other operators?
- Do recurring faults occur?
- Are there difficulties with the operating manual?
- Do dangerous defects occur in the practice that have been overlooked in the planning?
- Are there abusive applications?

Please let us know, what could be important to us. Just use this form and send or fax it to our address.

Hilma-Römheld GmbH

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57271 Hilchenbach
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Fax: **02733/281-113**
Email: **info@hilma.de**
www.roemheld-gruppe.de

Observations:

Place, date, company stamp, name, signature