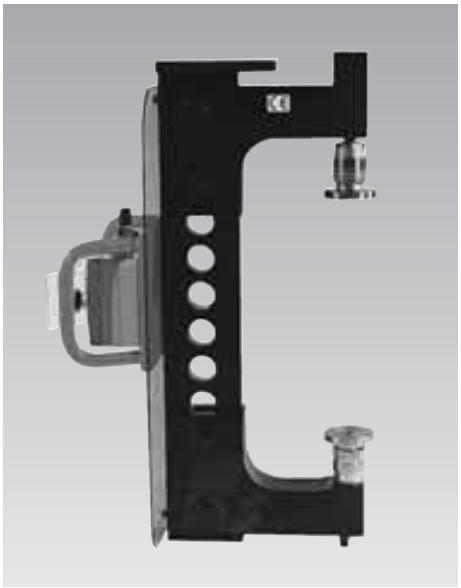
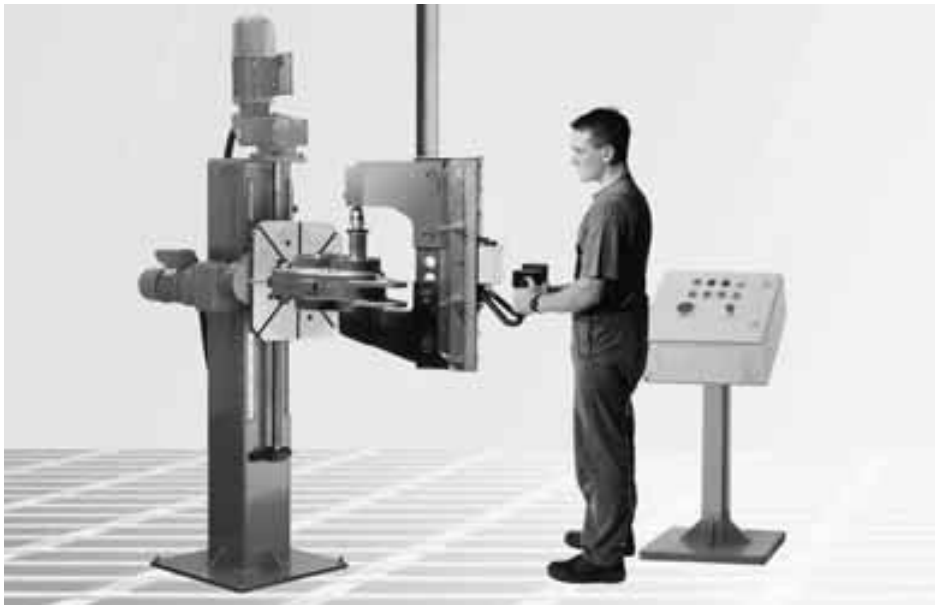
Press-In Frame for Assembly





Equipment for assembly working place: Mobile press-in frame for assembly in conjunction with assembly rotary table as per data sheet M 6.701

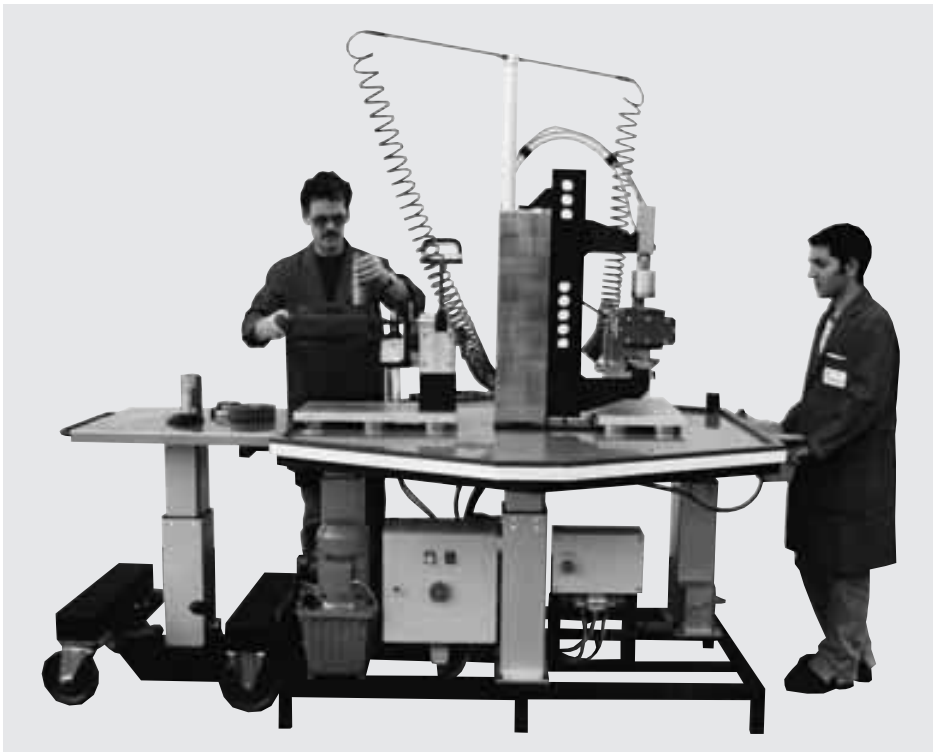
Application
Press-in frames for assembly are preferably used in assembly processes for production of longitudinal pressed joints. In addition, a variable C-shaped press-in frame is available for different assembly conditions.

Variants
Mobile press-in frame of assembly
- Basic device prepared for location of a handling lift
- Press-in frame for assembly mounted on a mobile lifting cart for assembly operations.

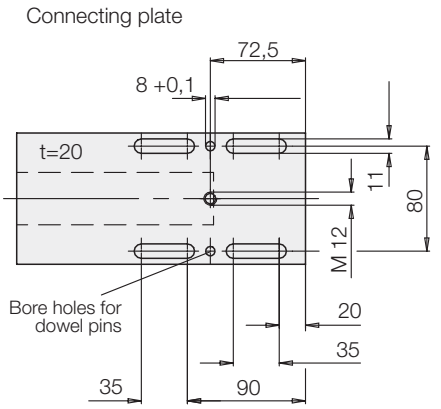
Stationary press-in frame for assembly
- Press-in frame for assembly as stand-alone assembly fixture
- Press-in frame for assembly integrated in the assembly working place as working place component.

Advantages
High flexibility in assembly
- Improved ergonomy
- Quality assurance of operation
- Reduction of assembly time
- Short time of amortization
- Closed force-loop
- Defined processes operation
- Slight component load
- Quick-change tooling system

Industry/applications (selection)
- Automotive industry and their suppliers
- Drive technology, gears box assembly
- Couplings, cardan shafts
- Compressors, pumps, hydraulic elements
- Industrial fittings
- Materials-handling technology
- Building and agricultural machines
- Machine tool building
- Electrotechnic



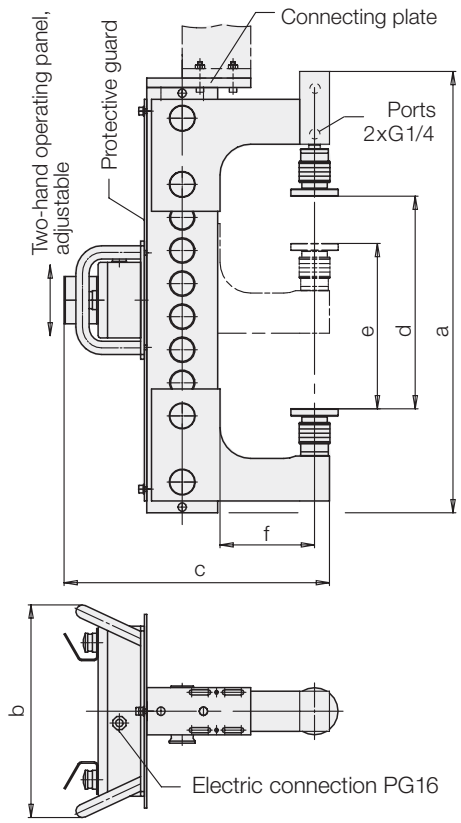
RÖMHELD Assembly working place, in modular design, press-in frame for assembly as per data sheet M 6.610, pallet for location and transport as per data sheet M 6.720. Swivel element for assembly as per data sheet M 6.709, lifting cart for assembly operations as per data sheet M 6.913, synchronization control for electric linear units as per data sheet M 6.912



Description
The basic version of press-in frames for assembly consists mainly of the location bar, to which the upper thrust bearing is adjustably mounted to the hydraulic cylinder.

The lower thrust bearing is also adjustably mounted with bolts to the location bar. The press-in frames for assembly are equipped in the basic version with a quick-change tooling system.Operation of the hydraulic cylinders is made by a two-hand operating panel due to safety reasons. For inversion of the motion direction of the hydraulic cylinder from an intermediate position, 2 additional push-buttons are provided in the two-hand operating panel. Due to ergonomic reasons, the two-hand operating panel is adjustably arranged at the location bar. An additional protective guard is also provided. Special versions on request.

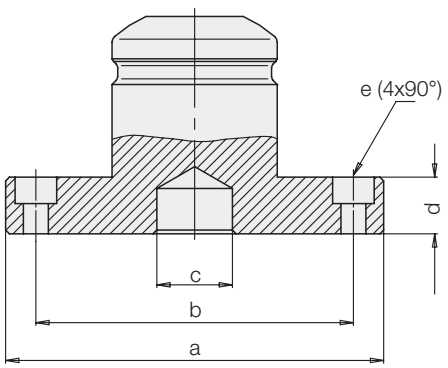
Application and installation instructions
When installing the press-in frame for assembly at the handling lift, the devices have to be pinned additionaly to the connecting surfaces. Power units are used for control, which correspond to the safety-specific demands of press-in fixtures and to the regulations of the CE machine tool guidelines. Suitable power units are available from the Römheld programme.



Size		1	2	3	4
Nominal pressure force	[kN]	25	40	63	80
Cylinder stroke	[mm]	100	100	100	100
a	[mm]	635	776	934	1086
b	[mm]	450	450	450	450
c	[mm]	408	488	562	618
d	[mm]	280	400	450	560
e	[mm]	4x50	6x50	5x70	6x70
f	[mm]	125	160	200	250
Weight	[kg]	47	78	125	190
Part-no.		**6630-100**	**6630-200**	**6630-300**	**6630-400**

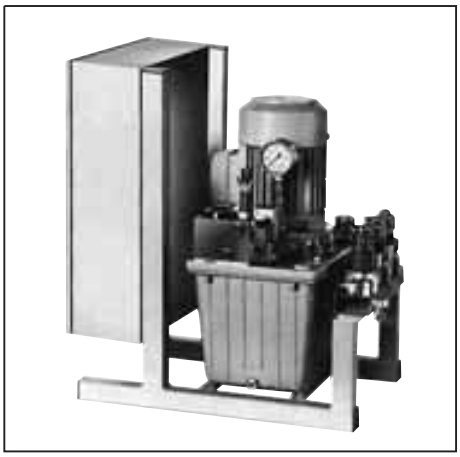
Quick-change tooling system
The quick-change tooling system offers the possiblity to change to other press-in contact pieces within a very short time. Uncoupling of the quick-change tooling system is made by lifting of the exterior sleeve only. The contact piece can be detached and changed. After release of the exterior sleeve the quick-change tooling system engages automatically and locates the contact pieces in a defined position. In unloaded mode the contact pieces are self-centering. During pressing-in the forces are compensated by the contact pieces and introduced to a spherical surface support, thereby they can allign themselves parallel to the centre line and compensate the elastic deformation of the components. A press-in operation without lateral forces and spare for the workpieces will be realized.

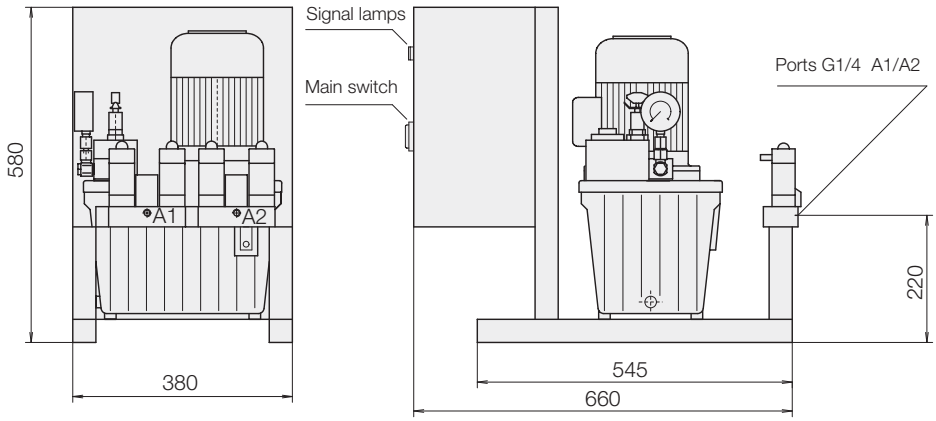
Contact piece



Technical characteristics

Size		1	2
a	[mm]	60	100
b	[mm]	40	84
c	[mm]	12 H7x6	20 H7x10
d	[mm]	10	15
e	[mm]	Jm5 DIN 74	Km6 DIN 74
Weight	[kg]	0.3	1.3
corresponding part-no. Press-in frame for assembly		6630-100 6630-200	6630-300 6630-400
Part-no.		**6604-161**	**6604-166**





Functioning
By operating the mushroom push-buttons at the two-hand operating panel at the same time, the hydraulic cylinder extends (starting from the retracted off-position). When reaching the maximum pressure the control switches automatically to "retract" and the hydraulic cylinder returns to the off-position.

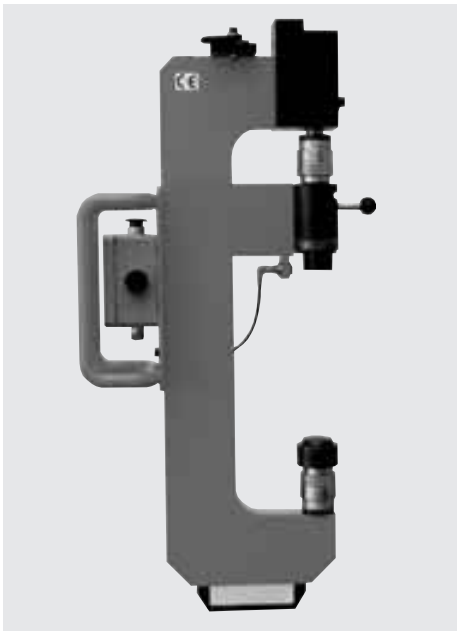
In the off-position the power unit switches off. If the two-hand operation is interupted off in an intermediate position, the hydraulic cylinder remains in this position and moves in case of renewed operation in the same direction. Inversion of the motion direction from an intermediate position can be effected by operation of the additional push-buttons "extend" or "retract" at the two-hand operating panel during standstill of the hydraulic cylinder. A cylinder motion is - in all operating conditions - only possible by operating simultaneously both mushroom push-buttons. Special versions on request.

Power units
For operation of the press-in frames for assembly the following power units are suitable

Technical characteristics

Size		1	2	3	4
Flow rate	[l/min]	0.6	0.9	1.5	2.5
Max. operating pressure	[bar]	500	500	500	405
Oil volume	[l]	11	11	11	11
Rating	[kW]	0.55	0.75	1.1	1.5
Main supply		3/PE~50Hz-400V	3/PE~50Hz-400V	3/PE~50Hz-400V	3/PE~50Hz-400V
Code class		IP 54	IP 54	IP 54	IP 54
v- press-in stroke	[mm/s]	20	19	20	21
v- return stroke	[mm/s]	34	31	32	36
Weight	[kg]	66	67	69	70
corresponding part-no. Press-in frame for assembly		6630-100	6630-200	6630-300	6630-400
Part-no.		**6854-006**	**6854-007**	**6854-008**	**6854-009**

Application examples of mobile press-in frame for assembly



Mobile press-in frame for assembly, 25 kN version with mechanic pre-centring of the upper thrust bearing and electronic position monitoring. Application in the automotive industry: Assembly of front axles for utility vehicles.

Application and installation instructions
Only the relating system components must be operated together, e.g. press-in frame for assembly size 1 with power unit size 1. When installing press-in frames for assembly and power units, electric cabling and hydraulic tubing has to be made. The delivered power units are without oil filling.

Mobile press-in frame for assembly, 80 kN version with opened lower contact piece for shafts. Application in the gear industry: Assembly of gears with one-part gear housings.

Conformity certificates will be issued for system components press-in frame for assembly with power unit. The system components are marked with the CE-sign.

Mobile press-in frame for assembly, 80 kN basic version. Application in the handling engineering: assembly of cable control gears.

Application examples of stationary press-in frame for assembly

Stationary press-in frame for assembly, 50 kN version in solid welding construction with rapid and creep speed control of the hydraulic cylinder. Application in the gear industry: assembly of gear motors

Stationary press-in frame for assembly, 63 kN version as stand-alone assembly fixture. Application in the automotive supply industry: assembly of cardan shafts

Stationary press-in frame for assembly, 20 kN version integrated with assembly sitting working place, hydraulic tandem cylinder and press-in force control. Application in the automotive supply industry: Assembly of bushings in valve rods.