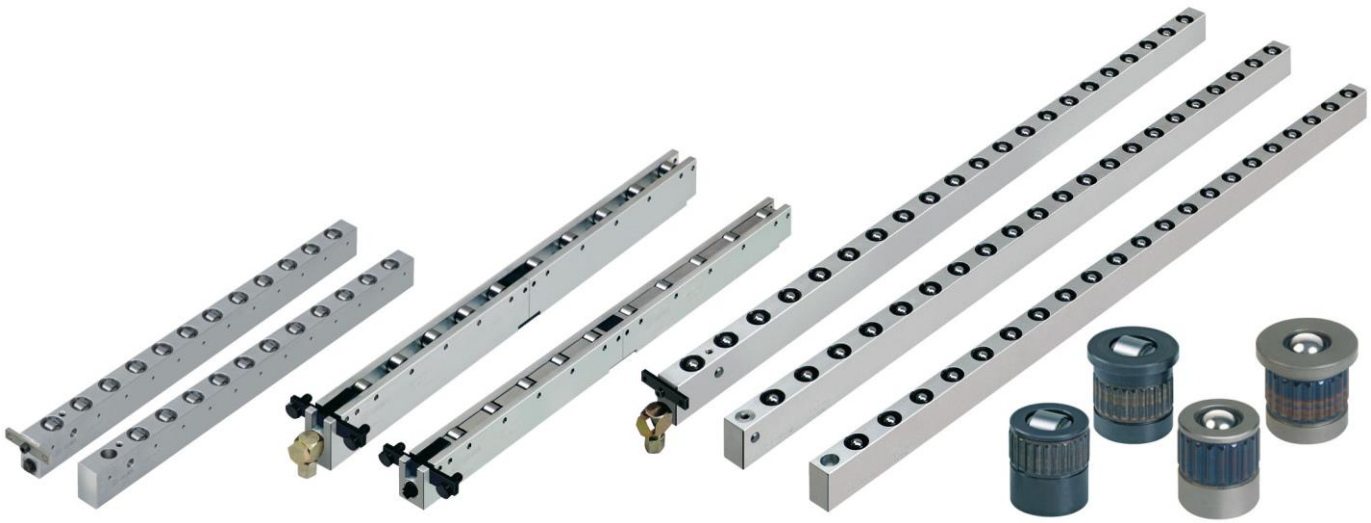
ROEMHELD
HILMA ▪ STARK

Operating Manual

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

Roller bars, hydraulically lifted for heavy loads	Type 8.1834.xxxx
Roller bars, hydraulically lifted	Type 8.92x5.xxxx
Roller bars, with spring pack	Type 8.92x6.xxxx
Ball bars hydraulically lifted	Type 2.9217.xxxx/ 8.92x7.xxxx
Ball bars, with spring pack	Type 2.9218.xxxx/ 8.92x8.xxxx
Ball Table-Inserts with spring pack	Type 8.1210.00xx / 8.1210.8xxx
Roller Table-Inserts with spring pack	Type 8.1210.x6xx / 8.1210.8xxx



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

1 Safety information

1.1 General

Hilma-Römheld roller / ball bars and table-inserts 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-Römheld roller / ball bars and table inserts is prohibited for reasons of safety and will lead to an invalidation of the warranty.

1.2 Field of application / intended use

Hilma-Römheld roller / ball bars are designed for use in the T-slots or square slots of presses or similar machines.
Hilma-Römheld table inserts are designed for use in specific mounting holes in press-tables or similar machines.
Any operation of the roller and ball bars unassociated with presses or similar machines is inadmissible.

1.3 Working parameters

The load applied to Hilma Römheld roller / ball bars and table inserts shall not exceed the specified values (see catalogue product group 8): number of load-bearing rollers x load-bearing capacity of each roller. The maximum permissible load-bearing capacity is only achieved if the load is distributed on all rollers or balls, see catalogue product group 8

Note: Overloading the ends of the bars may result in the unloaded bar areas lifting (Only applicable to roller bars Type 8.1834.)

1.4 Temperatures

The maximum operating temperature of the standard design is 100 °C. For higher temperatures,particular designs or special designs should be used.

1.5 Important safety precautions

- For installation, the fasteners supplied with the bars should be used.
- Check the load-bearing capacity of the roller / ball bars against the weight of the die.
- Secure the die against unintentional movement (falling down).

- When any installation or repair work is carried out, the system should not be pressurised.
- Make sure that the specified operating pressure and temperatures are not exceeded.

The operator shall be fully instructed before using roller / ball bars.
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.

2 Design and function

2.1 Design

The roller bar Type 8.1834. consists of segments which are assembled using plug-in connectors. The complete roller bar is lifted with lifting pistons.
The roller / ball bars consist of a single piece basic body. The rollers / balls are lifted individually with a separate lifting piston respectively spring pack.
The roller / ball table inserts consist of a housing in which a roller or ball insert is positioned on a preloaded spring assembly.

2.2 Functional description

Hydraulically lifted bar

The roller / ball bar is positioned in the T-slot or in the rectangular slot of a press bed. The rollers or balls are below bed level. When pressure is applied through the hydraulic port on the front end of the bar, the rollers or balls are lifted above the bed level in such a way that dies may be moved manually or mechanically. After die positioning, pressure is relieved of pressure and the die sinks to bed level.

Bar with spring pack respectively table insert with spring pack

In the relieved condition, the balls / rollers are above bed level. When the die is clamped, the balls / rollers are depressed against the spring pack, so that they are flush with the bed surface.

Note: load bearing capacity from catalogue refers to the total coverage of the bars!

3 Technical data, main dimensions

Roller or ball bars

Load-bearing capacity / main dimensions/		see catalogue sheets WZ81834... www.roemheld-group.com Drawings of special designs on request.
Total stroke type 1834		2 mm / for special designs also more possible
Operating pressure		400 bar
Total stroke type 8.9215/9217	13, 17, 18, 22, 28, 36 (13 = 13/16", 17 = 1 1/16")	1 / 2 / 3 mm
Operating pressure		120 / 100 bar
Total stroke type 8.9216/9218	13, 17, 18, 22, 28, 36	1 / 2 mm
Total stroke type 8.1210		1 to 3 mm
Max. temperature (standard)		100 °C
Max. temperature (8.92xx.xxxx steel housing special design 8.1210.8xxx)		depending on the design up to 250 °C

Hydraulic interface

Port A	G1/8 or G1/4, for lifting the roller / ball bars

4 Installation and putting into operation

If the incomplete machine 'roller / ball bar' or 'table insert' is installed, the following minimum conditions must be complied with, in order to ensure correct assembly with other components to form a complete machine without endangering personal health and safety.

4.1 Installation

Roller / ball bars:

- Clean the slots before inserting the roller or ball bars.
- Insert the bars and fasten them as shown in the drawing using the fasteners supplied with the bars.
- Connect the hydraulic system using the connectors supplied with the bars.
- When carrying out installation work, the system should not be pressurised.
- The upper surface of the roller bar must be beneath the bed surface. If necessary, a continuous strip of steel sheet may be placed underneath (roller / ball bars type 8.92xx.) or plug-in adapters (roller bars type 8.1834) may be used.
- To avoid damage to the bars, the outer edges and cut-outs should be chamfered.

Roller / ball table inserts

- Clean the mounting holes before mounting
- The mounting holes must be designed so that the top of the carrying roller or ball is at the desired height above the bed level when unloaded.
  The housing must not exceed the bed level!
- IMPORTANT: for later disassembly, a side hole or cut-out must be provided if a through hole from below is not possible.

4.2 Hydraulic installation

The hydraulic pipes on the machine side must be of adequate dimension (6x1 DIN 2391-St35 NBK or larger), and they must be installed according to specifications (DIN EN ISO 4413) and to most up to date practice in the field of high-pressure hydraulics. Pipes should be as short as possible. For single-acting elements with a spring return, the maximum length is 5 m, for double-acting elements greater lengths are possible. Pipe bends should be installed with large radius. A neat installation is essential for trouble-free 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 immediately before connecting the hydraulic system.

4.3 Putting into operation

- When loading the die make sure that it does not jam.
- Ensure that the die cannot fall down; guideways should be secured using fixed stops.
- Fit the pressure generator with a pressure relief valve adjusted to the operating pressure .
- Protect the bars against pressure peaks resulting from outside factors.
- Release the clamping pressure applied to the die.
- Apply pressure to the bars.
- Unload the die. Depending on the weight of the die, movement may be manual or motorised.
- For loading a new die into the machine proceed in the reverse order.
- Position the die on the lifted bars.
- Release the pressure applied to the roller bars (hydraulic version) and clamp the die.

Note: Do not clamp the die while the roller bars are hydraulically lifted!

- Read the operating instructions before putting the bars into operation.
- Only use clean and fresh oil.
- Bleed the complete system at its highest point with the pump running and at a low pressure (= 20 bar), until the oil emerges without bubbles (flushing).
- Apply pressure to the bars several times and have all movements carried out, checking their function visually
- Check the hydraulic system for tightness; inspect pressurised pipes, hoses, screw fittings and clamping elements.

ATTENTION: Do not put your hands in the movement range of clamping elements.
DANGER OF INJURY!

Control:
Allow for *all elements* a sufficient period of time in the control sequence t > 3s, in order to ensure correct functioning.

Depending on the design of the hydraulic system on the machine (cross sections of pipes, hose lengths, position and displacement of the power unit etc.), the period of time may vary. It may be necessary to increase or to reduce the indicated values to suit the system parameters.

5 Trouble shooting

The roller / ball bars and table inserts have left our premises in a perfect condition. All functions have been tested, and the necessary settings have been made. If a malfunction should occur despite the information contained in chapter 4.0 (Installation and putting into operation) having been observed, please check the cause with the aid of the following table.

Trouble	Possible cause	Remedial action
The die is not lifted	- The clamping pressure has not been released	Check hydraulic pipework and hose connections up to the power unit. Check for correct connection (clamping / unclamping).
	- The slot is too deep	Place a strip beneath the roller bars.
	- The bars are dirty	- Clean the bars
	- The roller / ball inserts are dirty	- Clean the roller / ball inserts
	- Springs under the roller / ball inserts are broken	- Replace springs or roller / ball inserts
	- The die is too heavy	- Reduce the die weight
	- The hydraulic system is not bled	Bleed the hydraulic system.
	- The operating pressure is not correctly adjusted	Readjust the operating pressure

The die is difficult to move	- The clamping pressure has not been released - The lateral guides are jammed - The rollers or balls do not run smoothly under load **(=> The force required for moving is lower when a hardened surface is used!)** - Roller / balls are overloaded => Die weight too high - The bars / table inserts are damaged - The bars / table inserts are dirty	Release the clamping pressure Align the lateral guides Replace the rollers or balls, if necessary. . - Increase the number of rollers / balls, reduce the die weight - Have the bars / table inserts repaired. - Clean the bars / table inserts

6 Maintenance and repair

Roller /ball bars and roller / ball table do not require any special maintenance. Once a month, the bars should be visually inspected for damage, and the rollers or balls should be checked. When used in a dirty environment, the roller or ball bars should be cleaned at regular intervals and lubricated with a suitable lubricant, if necessary (=> up to 200°C: OKS 341 spray, >200°C: OKS 3521 spray).

Hydraulic valves are very sensitive to dirt. Make sure that no impurities enter the hydraulic fluid. We recommend that the oil is changed once a year.

When carrying out routine maintenance work on the press,

- check electrical connections (plugs, cables) for damage
- check the hydraulic system for tightness

Note: The hydraulic system has been designed in accordance with **DIN EN ISO 4413** "Safety requirements for hydraulic systems and their components".
For spare parts list and installation sketches: see chapter 7.0 (Technical Appendix).

Following replacement, the clamping bar must be moved several times, in order to bleed it by means of the power unit (this also applies if hydraulic connections have been disconnected).

For putting the system into operation, observe the instructions in chapter 4.0 (Installation and putting into operation).

7. Disposal

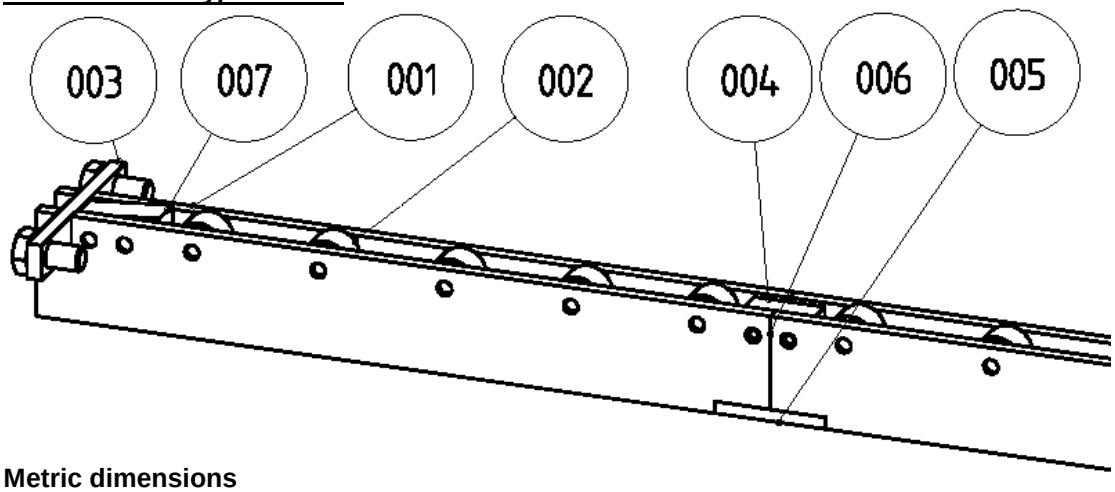
Hazardous to the environment
In order to avoid potential environmental damage, the individual components have to be disposed of by approved expert companies.

All materials have to be disposed of in compliance with the applicable codes and regulations as well as environment protection regulations.
Particular importance is to be attached to the disposal of components containing residues of pressure liquids. The notes regarding disposal in the safety data sheet have to be observed.

8 Technical Appendix, spare parts

Spare parts for unlisted special versions 8.1834.**8**xxx may vary and therefore indicate the item number of the special version when ordering!

7.1 Roller bars type 8.1834.



Metric dimensions

	Spare part	**8.1834.41xx** (18)	**8.1834.51xx** (22)	**8.1834.61xx** (28)	**8.1834.71xx** (36)
001	Initial roller bar	---	7.1834.0024	7.1834.0015	7.1834.0011
001	Roller bar	---	7.1834.5100	7.1834.0016	7.1834.0012
001	End roller bar	---	7.1834.0026	7.1834.0025	---
002	Roller	---	1.1210.0021	1.1210.0021	6.3300.6220
003	Holding sheet	---	5.0483.0081	5.0483.0081	5.0483.0081
004	Connecting piece	---	5.1017.0047	5.1017.0047	5.1017.0047
005	Connecting bar	---	5.0495.0459	5.0495.0455	5.0495.0455
006	Plug-in connector	---	9210 132	9210 132	9210 132
007	Roller protector	---	5.1017.0051	5.1017.0051	5.1017.0051
	Screw fitting	---	2.8030.0012	2.8030.0012	2.8029.0001
	Piston	---	5.1010.1050	5.1010.0960	5.1010.0960
	Piston seals	---	1.9500.0009 1.9604.1010	1.9500.0212 1.9604.1004	1.9500.0212 1.9604.1004

Inch dimensions

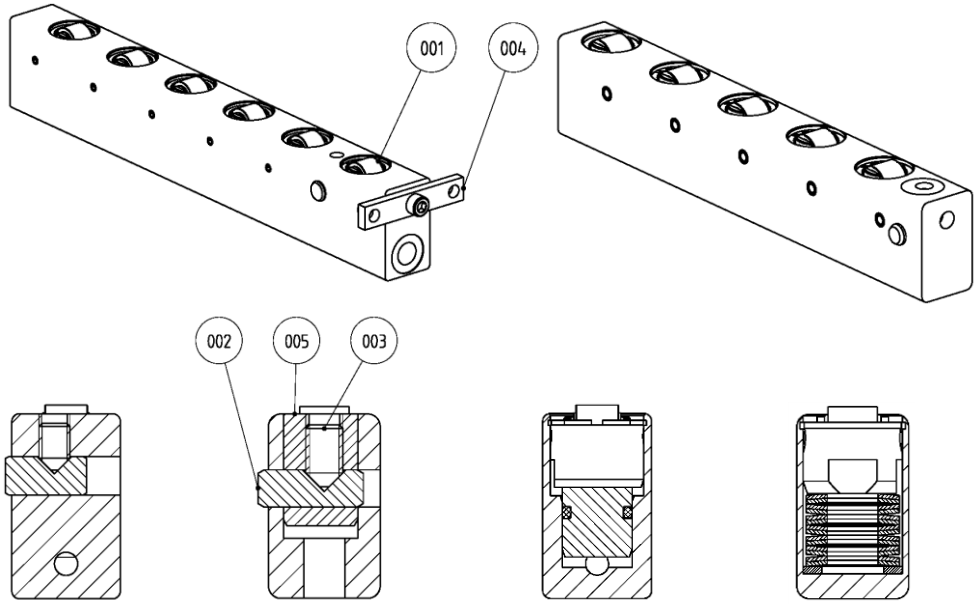
	Spare part	**8.1834.9xxxx** (13/16)	**8.1834.9xxx** (1 1/16)	**8.1834.9xxxx** (1 5/16)	**8.1834.9xxxx** (1 9/16)
001	Roller bar	7.1834.0009	7.1834.0006	7.1834.0007	7.1834.0008
001	Initial roller bar	7.1834.0020	7.1834.0017	7.1834.0018	7.1834.0019
001	End roller bar	---	---	---	---
002	Roller	6.3300.0500	1.1210.0021	1.1210.0021	6.3300.6220
003	Holding sheet	5.0583.0079	5.0483.0076	5.0483.0076	5.0483.0076
004	Connecting piece	5.1017.0048	5.1017.0047	5.1017.0047	5.1017.0047
005	Connecting bar	5.0495.0493	5.0495.0459	5.0495.0455	5.0495.0455
006	Plug-in connector	9210 132	9210 132	9210 132	9210 132
007	Roller protector	---	5.1017.0051	5.1017.0051	5.1017.0051
	Screw fitting	2.8030.0012	2.8030.0012	2.8030.0012	2.8029.0001
	Piston	5.1010.1068	5.1010.1050	5.1010.0960	5.1010.0960
	Piston seals	1.9500.0273 1.9604.1002	1.9500.0009 1.9604.1010	1.9500.0212 1.9604.1004	1.9500.0212 1.9604.1004

8.2 Roller bars type 8.92x5./8.92x6.

8.92**1**x.xxxx => Standard stroke
8.92**2**x.xxxx => enlarged stroke

8.92xx.**7**xxx => aluminum housing max. 100 °C
8.92xx.**6**xxx => steel housing max. 100 °C
8.92xx.**5**xxx => steel housing *>100 °C – 200 °C*
8.92xx.**4**xxx => steel housing >200 °C – 250 °C

Spare parts for unlisted special versions 8.92xx.**8**xxx may vary and therefore indicate the item number of the special version when ordering!



Hydraulic roller bar: Fastening plate (R) / Wedge lock (K)

	Spare part (mm) (inch)	**8.92x5.xx18 R/K** **8.92x5.xx13 R/K**	**8.92x5.xx22 R/K** **8.92x5.xx17 R/K**	**8.92x5.xx28 R/K**	**8.92x5.xx36 R/K**
001	Roller insert cpl. (incl. piston…) max. 100 °C Standard stroke	7.9215.0001	7.9215.0002	7.9215.0003	7.9215.0004
001	Roller insert max. 100 °C Standard stroke enlarged stroke	7.9215.0015 ---	7.9215.0016 ---	7.9215.0007 7.9225.0007	7.9215.0008 7.9225.0008
001	Roller insert >100 °C – 250 °C Standard stroke enlarged stroke	7.9215.0009 ---	7.9215.0010 ---	7.9215.0011 7.9225.0011	7.9215.0012 7.9225.0012
	Retainer ring	5.0472.0001	5.0472.0002	5.0472.0003	1.0472.0030
002	(K) Wedge lock bolt	5.1013.0444	5.1013.0483	5.1013.0483	5.1013.0483
003	(K) Threaded pin	1.0914.0026	1.0914.0028	1.0914.0028	1.0914.0028
004	(R) Retaining plate	5.0483.0085	5.0483.0084	5.0483.0086	5.0483.0087
	Elbow coupling	2.8030.0012	2.8030.0012	2.8029.0001	2.8029.0001
	Piston Standard stroke enlarged stroke	5.1010.1437 ---	5.1010.1351 ---	5.1010.1352 5.1010.1527	5.1010.1438 5.1010.1574
	Piston seal max. 100° C >100 °C – 200 °C >200 °C – 250 °C	1.9501.0040 1.9503.0106 1.9502.1022	3000 651 1.9503.0122 1.9502.1012	1.9501.0019 1.9503.0104 1.9502.1039	1.9500.0004 1.9503.0139 1.9502.1017

Roller bar with spring pack: Fastening screw (S) / Wedge lock (K)

	Spare part (mm) (inch)	**8.9216.x018 S/K** **8.9216.x013 S/K**	**8.9216.x022 S/K** **8.9216.x017 S/K**	**8.9216.x028 S/K**	**8.9216.x036 S/K**
001	Roller insert cpl. (incl. spring pack…) max. 100 °C	7.9216.0001	7.9216.0002	7.9216.0003	7.9216.0004
	Order of assembly *)	S-7x2T-E-R	S-8x2T-S-E-R	S-8x2T-S-E-R	S-7x2T-E-R
001	Roller insert max. 100 °C	7.9215.0015	7.9215.0016	7,9215.0007	7.9215.0008
001	Roller insert >100 °C – 250 °C	7.9215.0009	7.9215.0010	7.9215.0011	7.9215.0012
	Retainer ring	5.0472.0001	5.0472.0002	5.0472.0003	1.0472.0030
002	(K) Wedge lock bolt	5.1013.0444	5.1013.0483	5.1013.0483	5.1013.0483
003	(K) Threaded pin	1.0914.0026	1.0914.0028	1.0914.0028	1.0914.0028
005	(K) Sleeve	5.3002.0107	---	---	---

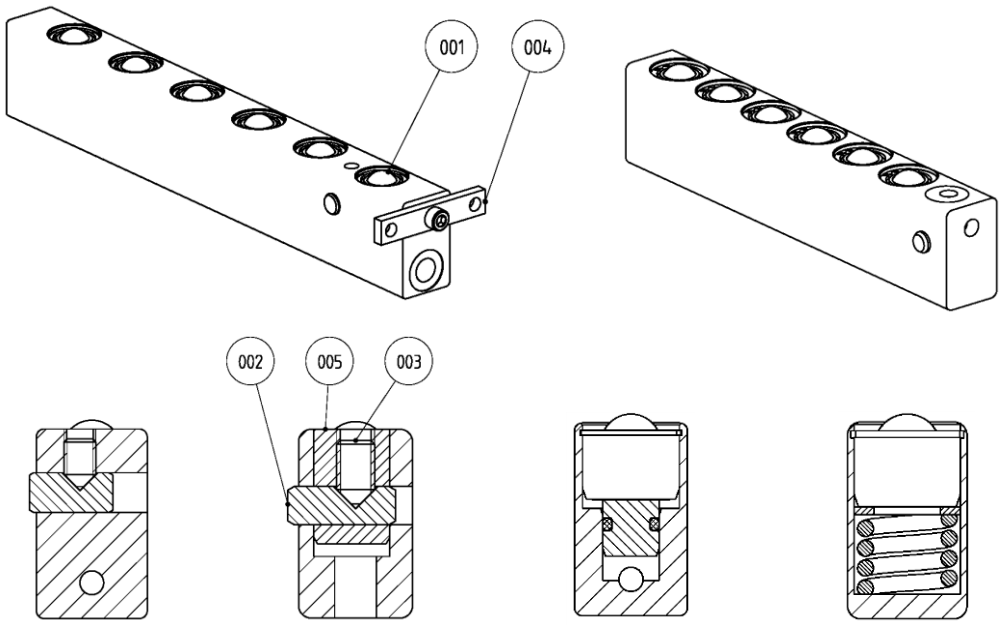
*) Order of assembly: E (roller insert), S (disc), 4x2T (4x2 disc springs), R (retaining ring)

8.3 Ball bars type 8.92x7./8.92x8.

8.92**1**x.xxxx => Standard stroke
8.92**2**x.xxxx => enlarged stroke
*8.92xx.**70**xx => Variant until 03/2006!!!*

8.92xx.**7**xxx => aluminum housing max. 100 °C
8.92xx.**6**xxx => steel housing max. 100 °C
8.92xx.**5**xxx => steel housing >*100 °C – 200 °C*
8.92xx.**4**xxx => steel housing >200 °C – 250 °C

Spare parts for unlisted special versions 8.92xx.**8**xxx may vary and therefore indicate the item number of the special version when ordering!



Hydraulic ball bar: fastening plate (R) / Wedge lock (K)

	Spare part (mm) (inch)	**8.92x7.xx18 R/K** **8.92x7.xx13 R/K**	**8.92x7.xx22 R/K** **8.92x7.xx17 R/K**	**8.92x7.xx28 R/K**	**8.92x7.xx36 R/K**
001	Ball insert cpl. (incl. piston…) max. 100 °C Standard stroke	7.9217.0001	7.9217.0002	7.9217.0003	7.9217.0004
001	Ball insert max. 100 °C Standard stroke enlarged stroke	7.9217.0005 ---	7.9217.0006 ---	7.9217.0007 7.9227.0007	7.9217.0008 7.9227.0008
001	Ball insert >100 °C – 250 °C Standard stroke enlarged stroke	7.9217.0009 ---	7.9217.0010 ---	7.9217.0011 7.9227.0011	7.9217.0012 7.9227.0012
	Retainer ring	5.0472.0001	5.0472.0002	5.0472.0003	1.0472.0030
002	(K) Wedge lock bolt	5.1013.0444	5.1013.0483	5.1013.0483	5.1013.0483
003	(K) Threaded pin	1.0914.0026	1.0914.0028	1.0914.0028	1.0914.0028
004	(R) Retaining plate	5.0483.0085	5.0483.0084	5.0483.0086	5.0483.0087
	Elbow coupling	2.8030.0012	2.8030.0012	2.8029.0001	2.8029.0001
	Piston Standard stroke enlarged stroke	5.1010.1246 ---	5.1010.1350 ---	5.1010.1351 5.1010.1528	5.1010.1352 5.1010.1527
	Piston seal max. 100° C >100 °C – 200 °C >200 °C – 250 °C	3000 342 3001 077 1.9502.1001	1.9501.0016 1.9503.0008 1.9502.1023	3000 651 1.9503.0122 1.9502.1012	1.9501.0019 1.9503.0104 1.9502.1039

Ball bar with spring pack: (disc spring). Fastening screw (S) / Wedge lock (K)

	Spare part (mm) (inch) (mm) (inch)	**8.9218.7118 S/K** **8.9218.7113 S/K** **8.9218.4/5x18** **8.9218.4/5x13**	**8.9218.7122 S/K** **8.9218.7117 S/K** **8.9218.4/5x22** **8.9218.4/5x17**	**8.9218.7128 S/K** **8.9218.4/5x28**	**8.9218.7x36 S/K** **8.9218.4/5/6x36**
001	Ball insert cpl. (incl. spring pack…) max. 100 °C	7.9218.0005	7.9218.0006	7.9218.0007	7.9218.0008
	Order of assembly *)	S-8x1T-S-E-R	S-10x1T-S-E-R	S-8x1T-S-E-R	S-10x1T-S-E-R
001	Ball insert max. 100 °C	7.9217.0005	7.9217.0006	7.9217.0007	7.9217.0008
001	Ball insert >100 °C – 250 °C	7.9217.0009	7.9217.0010	7.9217.0011	7.9217.0012
	Retainer ring	5.0472.0001	5.0472.0002	5.0472.0003	1.0472.0030
002	(K) Wedge lock bolt	5.1013.0444	5.1013.0483	5.1013.0483	5.1013.0483
003	(K) Threaded pin	1.0914.0026	1.0914.0028	1.0914.0028	1.0914.0028
005	(K) Sleeve	5.3002.0107	---	---	---

Ball bar with spring pack: (pressure spring). Fastening screw (S) / Wedge lock (K)

	Spare part (mm) (inch) (mm/inch)	**8.9218.7218 S/K** **8.9218.7213 S/K** **8.9218.6x18/13**	**8.9218.7222 S/K** **8.9218.7217 S/K** **8.9218.6x22/17**	**8.9218.7228 S/K** **8.9218.6x28**	
001	Ball insert cpl. (incl. press. spring…) max. 100 °C	7.9218.0009	7.9218.0010	7.9218.0011	
	Order of assembly *)	D-S-E-R	D-E-R	D-S-E-R	
001	Ball insert max. 100 °C	7.9217.0005	7.9217.0006	7.9217.0007	
001	Ball insert >100 °C – 250 °C	7.9217.0009	7.9217.0010	7.9217.0011	
	Retainer ring	5.0472.0001	5.0472.0002	5.0472.0003	
002	(K) Wedge lock bolt	5.1013.0444	5.1013.0483	5.1013.0483	
003	(K) Threaded pin	1.0914.0026	1.0914.0028	1.0914.0028	
005	(K) Sleeve	5.3002.0107	---	---	

*) Order of assembly: E (ball insert), S (disc), 4x2T (4x2 disc springs), D (pressure spring), R (retaining ring)

Previous variants until 03/2006 (ball bars type 8.9217.70xx/8.9218.70xx)

Hydraulic ball bar: Fastening plate (R) / Wedge lock (K)

	Spare part *(mm)* *(inch)*	***8.9217.7018 R/K*** ***8.9217.7013 R/K***	***8.9217.7022 R/K*** ***8.9217.7017 R/K***	***8.9217.7028 R/K***	***8.9217.7036 R/K***
001	*Complete ball insert (incl. piston)*	*7.9217.0001*	*7.9217.0002*	*7.9217.0003*	*7.9217.0004*
002	*(K) Wedge lock bolt*	*5.1013.0444*	*5.1013.0444*	*5.1013.0451*	*5.1013.0451*
003	*(K) Threaded pin*	*1.0914.0026*	*1.0914.0026*	*1.0914.0028*	*1.0914.0028*
004	*(R) Retaining plate*	*5.0483.0085*	*5.0483.0084*	*5.0483.0086*	*5.0483.0087*
	Elbow coupling	*2.8030.0012*	*2.8030.0012*	*2.8029.0001*	*2.8029.0001*
	Piston	*5.1010.1246*	*5.1010.1350*	*5.1010.1351*	*5.1010.1352*
	Piston seal *max. 100 °C*	*3000 342*	*1.9501.0016*	*3000 651*	*1.9501.0019*

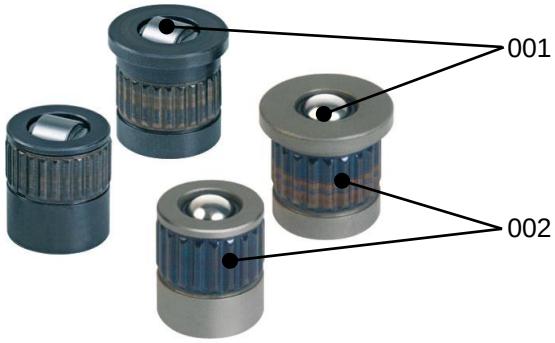
Ball bar spring loaded (cup spring pack): Fastening screw (S) / Wedge lock (K)

	Spare part *(mm)* *(inch)*	***8.9218.7018 S/K*** ***8.9218.7013 S/K***	***8.9218.7022 S/K*** ***8.9218.7017 S/K***	***8.9218.7028 S/K***	***8.9218.7036 S/K***
001	*Complete ball insert (incl. spring pack)*	*7.9218.0001*	*7.9218.0002*	*7.9218.0003*	*7.9218.0004*
002	*(K) Wedge lock bolt*	*5.1013.0444*	*5.1013.0444*	*5.1013.0451*	*5.1013.0451*
003	*(K) Threaded pin*	*1.0914.0026*	*1.0914.0026*	*1.0914.0028*	*1.0914.0028*
005	*(K) Sleeve*	*5.3002.0100*	*5.3002.0100*	*5.3002.0099*	*5.3002.0099*

8.4 Roller-/ Ball table-insert type 8.1210.

		Ball table-insert 200 N	Ball table-insert 400 N	Ball table-insert 600 N	Ball table-insert 1000 N
	Spare part (mm) (inch)	**8.1210.0005** **8.1210.0006** **8.1210.0001** **8.1210.0007**	**8.1210.0011** **8.1210.0012** **8.1210.0002** **8.1210.0008**	**8.1210.0018** **8.1210.0019** **8.1210.0003** **8.1210.0009**	**8.1210.0022** **8.1210.0023** **8.1210.0004** **8.1210.0010**
001	Ball insert	7.9217.0005	7.9217.0006	7.9217.0007	7.9217.0008
002	Tolerance ring	2.0980.0007	2.0980.0006	2.0980.0008	2.0980.0010

		Roller table-insert 600 N	Roller table-insert 900 N	Roller table-insert 1400 N	Roller table-insert 2400 N
	Spare part (mm) (inch)	**8.1210.0605** **8.1210.0606** **8.1210.0601** (500 N) **8.1210.0607** (500 N)	**8.1210.0611** **8.1210.0612** **8.1210.0602** (800 N) **8.1210.0608** (800 N)	**8.1210.0618** **8.1210.0619** **8.1210.0603** (900 N) **8.1210.0609** (900 N)	**8.1210.0622** **8.1210.0623** **8.1210.0604** (2200 N) **8.1210.0610** (2200 N)
001	Roller insert	7.9215.0015	7.9215.0016	7.9215.0007	7.9215.0008
002	Tolerance ring	2.0980.0007	2.0980.0006	2.0980.0008	2.0980.0010



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:

Roller bars, hydraulically lifted
Type 8.1834.xxxx
Roller bars, hydraulically lifted
Type 8.92x5.xxxx
Roller bars, with spring pack
Type 8.92x6.xxxx
Ball bars, hydraulically lifted
Type 8.92x7.xxxx
Ball bars, with spring pack
Type 8.92x8.xxxx
Roller / Ball table-insert
Type 8.1210.xxxx

as supplied by us has been specifically designed for incorporation into a machine, taking full account of DIN EN ISO 12100 and 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.

Responsible for the document:
Thomas Willingshofer
Schützenstraße 74
D-57271 Hilchenbach

Hilchenbach September 16, 2010
H.- J. Molka
Managing Director