

Buy at Allstrap (866) 779-2673

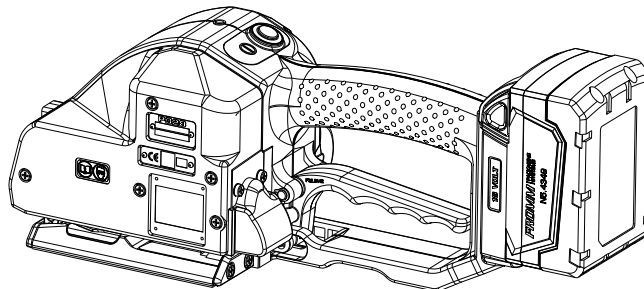
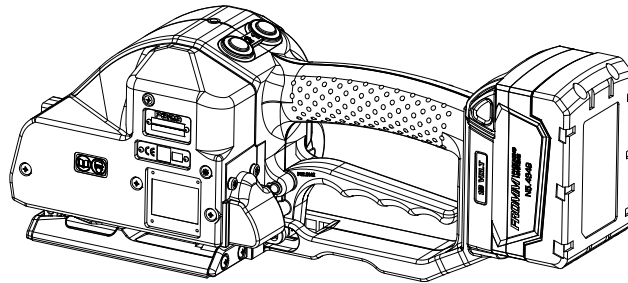
FROMM

SERVICE MANUAL

**BATTERY - POWERED
PLASTIC STRAPPING TOOL
MODEL**

P329 M/HA / P329 A/A

Manual for authorized dealers and service points



	INDEX	PAGE
1.1	ACCESSORIES	6-3
1.1.1	Battery	6-3
1.1.2	Battery chargers	6-3
1.1.3	Battery tester	6-3
1.1.4	Memory reader for circuit board	6-3
1.1.5	Suspension	6-3
1.1.6	Fan	6-4
1.2	TECHNICAL DETAILS	6-4
1.2.1	Strap tension	6-4
1.2.2	Electric schematic Semi Automatic ELS.1082	6-5
1.2.3	Connecting plan Semi Automatic	6-5
1.2.4	Electric schematic Automatic ELS.1083	6-6
1.2.5	Connecting plan Automatic	6-6
1.3	CONVERSION PARTS P329	6-7
1.3.1	Conversion parts for changing of strap width and strap thickness	6-7
1.3.2	Conversion parts from Semi automatic to Automatic	6-7
1.4	PERIODIC MAINTENANCE AND CONTROL	6-8
1.4.1	Procedure	6-8
1.4.2	Troubleshooting	6-9
1.4.3	Battery test	6-11
1.4.4	Checklist	6-11
1.4.5	Lubrication rules	6-11
1.4.6	Glueing rules	6-12
1.4.7	Assembly information	6-13
1.5	RECOMMENDED SPARE PARTS	6-20
1.6	MAINTENANCE PLAN P329	6-21
1.7	ACCESSORY TOOLS	6-22
1.8	USE OF ACCESSORY TOOLS	6-23
1.9	ORDERING SPARE PARTS	6-29
1.9.1	Ordering manuals	6-29
1.9.2	Ordering address	6-29
1.9.3	Finding out of the tool type (item number), the serial number and the version number:	6-30
1.10	SERVICE ADDRESS	6-30
1.11	CHART OF TYPES	6-30
1.11.1	Chart of types P329 M / HA	6-30
1.11.2	Chart of types P329 A / A	6-30

1.1 ACCESSORIES

1.1.1 Battery

Use only original Fromm batteries N5.4349 (Li-Ion).

1.1.2 Battery chargers

The battery charger must be ordered separately according to the table mentioned below.

Item-No.	Voltage / frequency	Admitted for country
N5.4443	220 - 240V / 50 - 60Hz	A, B, BG, BIH, BOL, BR, BY, CH, CL, CZ, D, DK, DZ, E, EAS, EST, ET, F, FIN, GE, GR, H, HK, HR, I, IL, IND, IR, IRQ, IS, JOR, KSA, KWT, L, LAR, LT, LV, MA, MC, MK, MOC, N, NL, P, PK, PE, PL, PRC, PY, RA, RCH, RI, RL, RO, ROK, ROU, RP, RUS, S, SK, SLO, SYR, THA, TN, TR, UA, (UAE), YU, YV, (BRN), (BRU), (CY), (EAK), (EAT), (GB), (IRL), (M), (MAL), (OM), (SGP), (Y), (Z), (ZA), (ZW)
N5.4447	120V / 50 - 60Hz	BR, C, CDN, CO, CR, DOM, EC, GCA, J, JA, KSA, LB, MEX, NIC, PA, Puerto Rico, RC, RP, USA, YV
N5.4445	220 - 240V / 50 - 60Hz	AUS, NZ

(..) = an adaptor N52.2102 is required.

1.1.3 Battery tester

Information to the Battery tester you will get by FROMM System GmbH.
(see 1.10 SERVICE ADDRESS)

1.1.4 Memory reader for circuit board

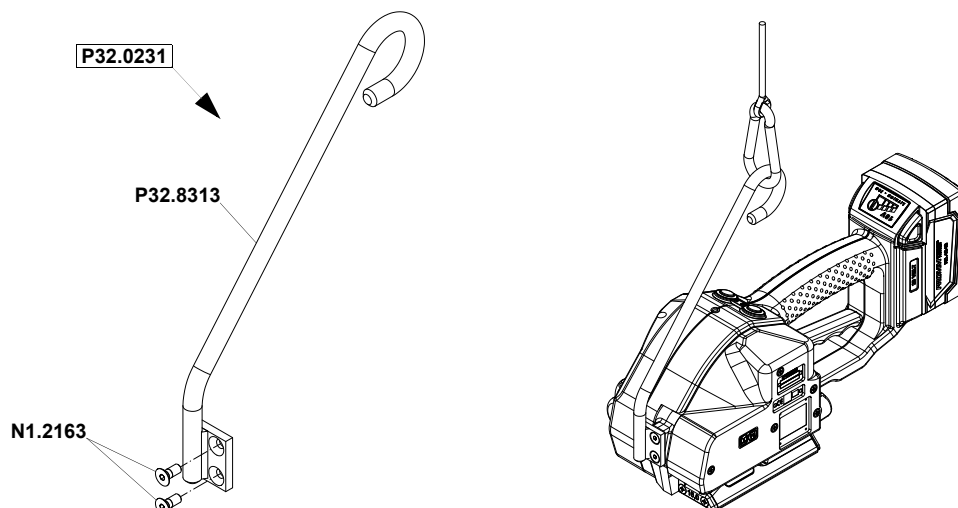
To read the memory information of the tools circuit board the reader N7.5154 can be ordered.
With this the following data could be read:

- software version
- date of software
- strapping cycles
- calibration current

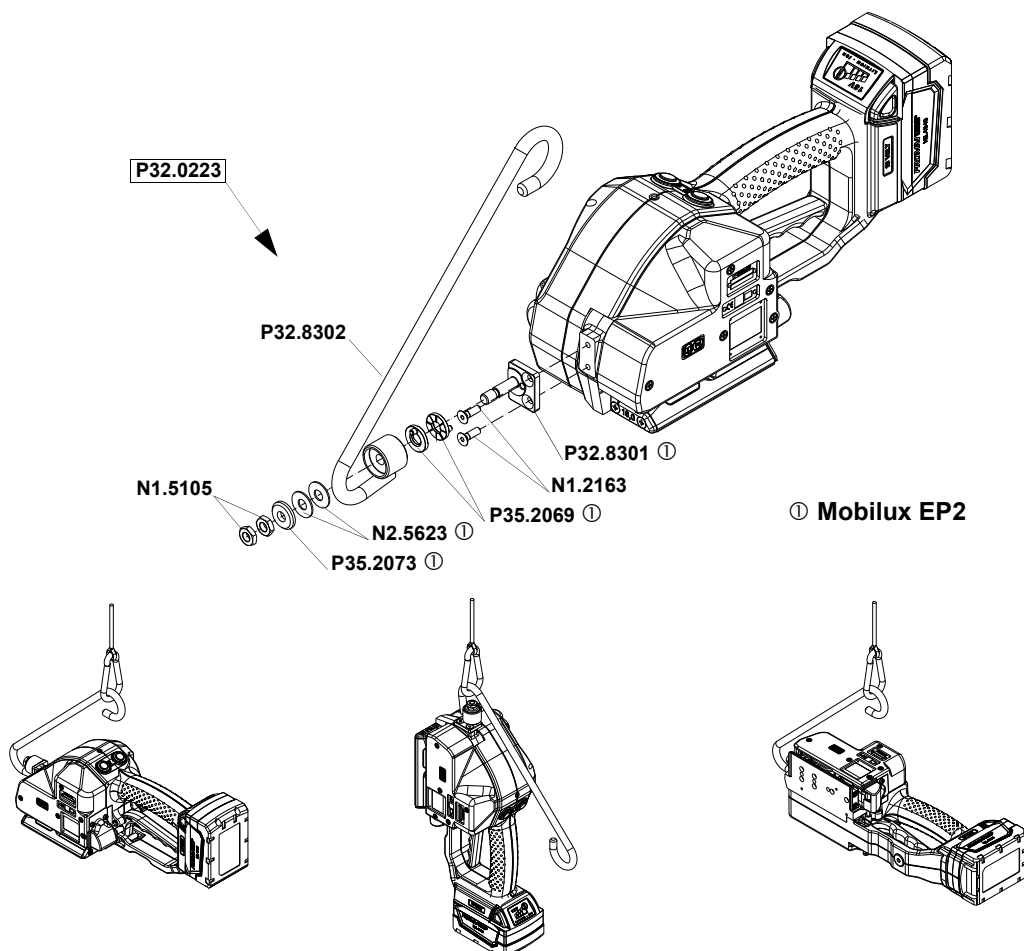
1.1.5 Suspension

When working stationary the strapping tool can be suspended at a spring loaded balancer by using a suspension bracket.

For working in normal position a stiff suspension bracket with screws and washers can be ordered under item number P32.0231.



For working in alternating positions a turnable suspension bracket with screws and washers can be ordered under item number P32.0223.



1.1.6 Fan

In order to avoid overheating of the motor we recommend at environmental temperatures above 40°C / 104°F using the optional fan P32.0228.
(see 1.4.7 Assembly information)

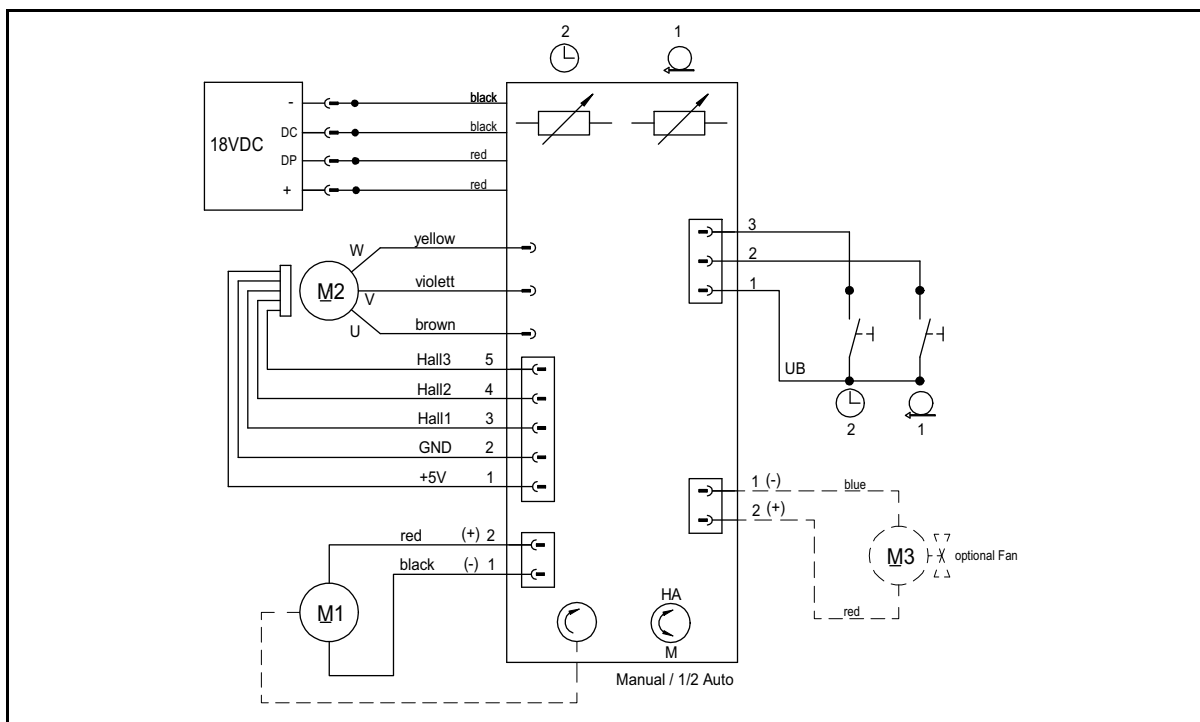
1.2 TECHNICAL DETAILS

1.2.1 Strap tension

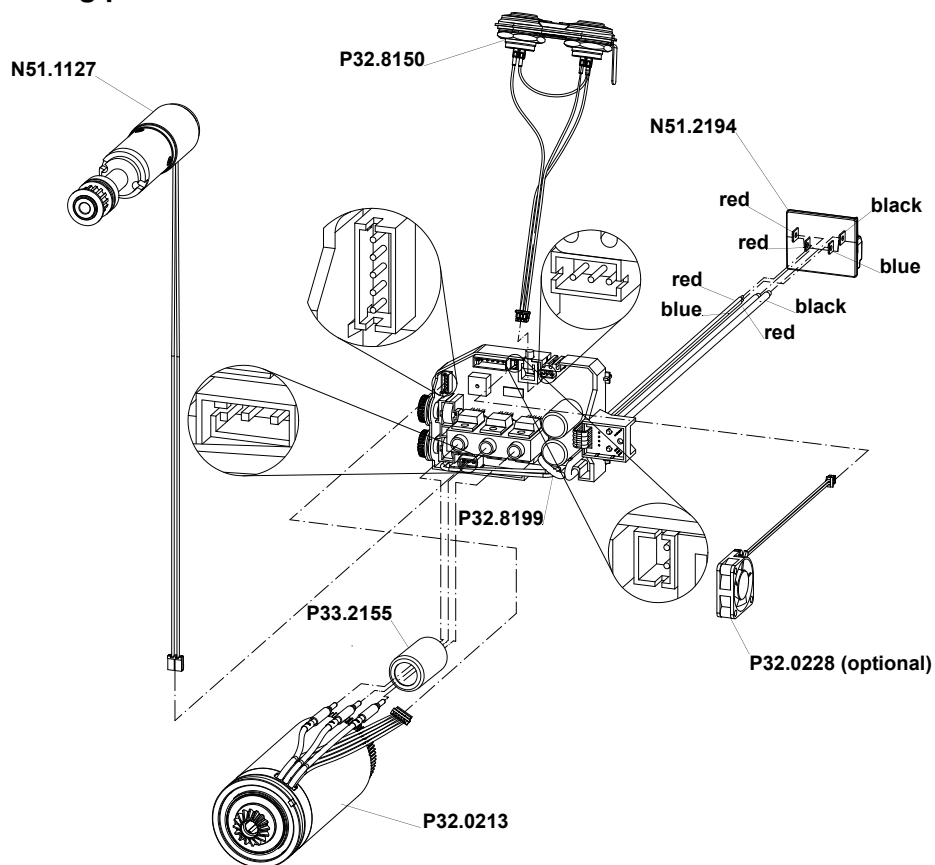
The tension force values mentioned in the operation manual (500-4000N) are not achievable with each strap. They depend on following factors:

- Hardness of the package,
the maximum tension force values are achievable with hard packages.
- Elongation and creep properties of the plastic strap,
the maximum tension force values are achievable by using plastic straps with a low elongation.
- Surface quality of the plastic strap,
the maximum tension force values are achievable with waxed and embossed straps.
- Strap width, strap thickness,
the maximum tension force values are achievable with thick and wide straps.

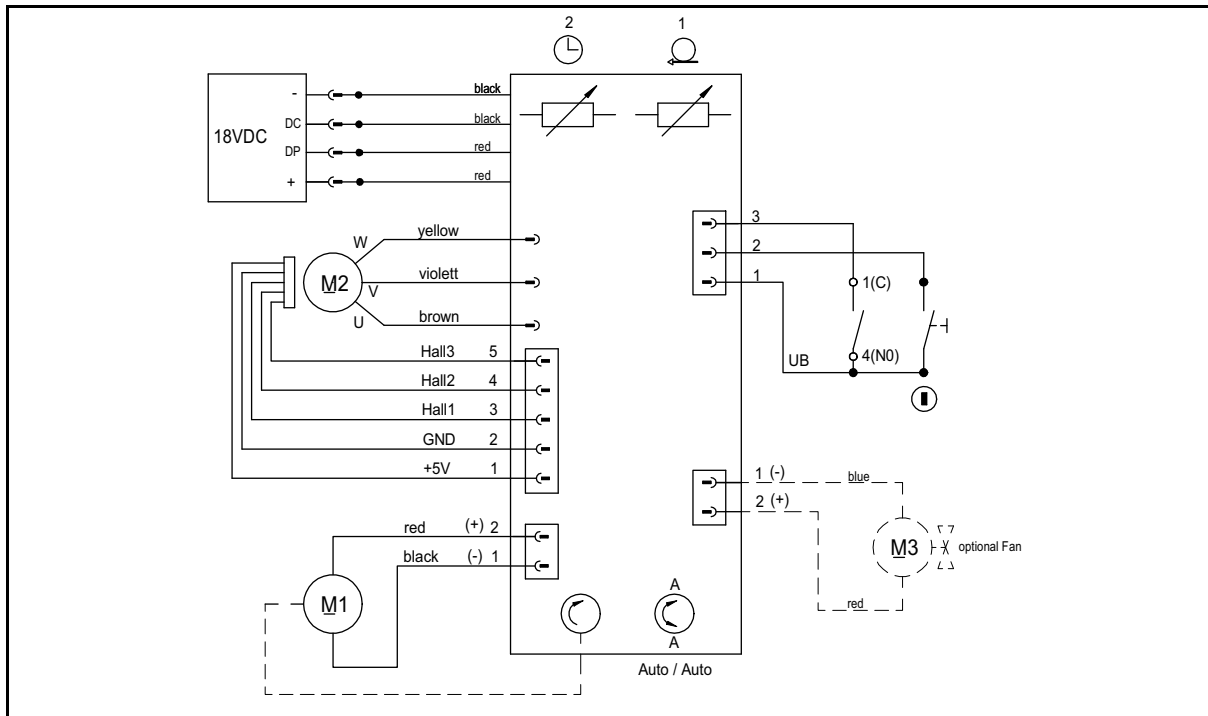
1.2.2 Electric schematic Semi Automatic ELS.1082



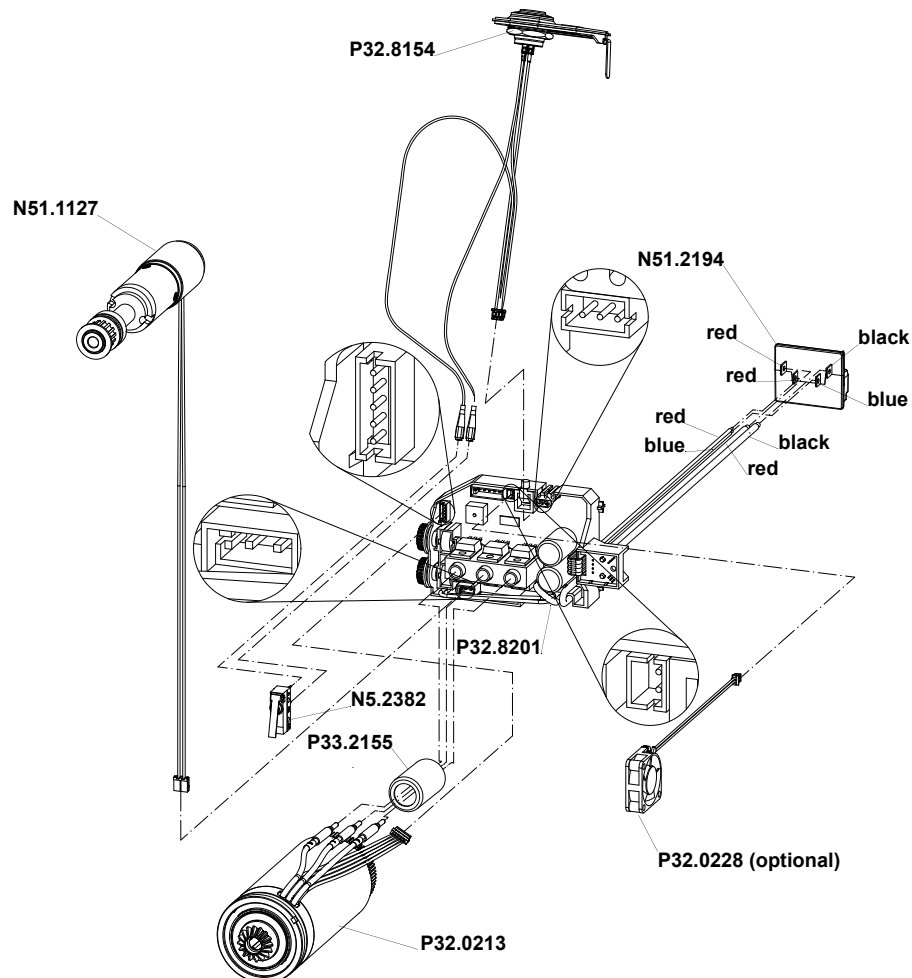
1.2.3 Connecting plan Semi Automatic



1.2.4 Electric schematic Automatic ELS.1083



1.2.5 Connecting plan Automatic



1.3 CONVERSION PARTS P329

1.3.1 Conversion parts for changing of strap width and strap thickness

Semi automatic	43.2522	43.2532	43.2533
Automatic	43.2722	43.2732	43.2733
	16/0.65-1.05	19/0.65-1.05	19/1.06-1.35
Strap stop	P32.8168	P32.8169	P32.8169
Strap guide	P32.8177	P32.8178	P32.8178
Guide pin	P35.3216	P35.3218	P35.3218
Guide pin	P35.3217	P35.3219	P35.3219
Insertation part	P32.8198	P32.8198	--

1.3.2 Conversion parts from Semi automatic to Automatic

	Semi automatic	Automatic
Circuit board	P32.0229	P32.0230
Touch contact-switch	P32.8150	P32.8154
Pusher	--	P32.8133
Adhesive label	N44.9160	N44.9170

Attention!
When converting tools always change the item number on the type label.

Replace following parts:
Type label N44.9148
2 x hammer head bolts N2.4902

Enclose the suitable operation manual with the tool after each conversion
(see paragraph 1.9.1 Ordering manuals).

1.4 PERIODIC MAINTENANCE AND CONTROL

(Carry out 12- months cycles doing one shift work. Doing more shift work respectively more often.)

To avoid damages on the motor shaft the two needle free wheelings N3.4509 and N3.4520 have to be replaced after 80 000 strapping cycles.

1.4.1 Procedure

Before using check tool for following possible faults:

- Visual test of the tool for loose, lost or damaged parts
- Clean all dirty parts of the tool, especially strap abrasion in the tensioning or the welding unit by using compressed air. (Never use any hard tools like a wire brush or a screw driver for cleaning)

Carry out a test strapping and check following:

- Insertion of the strap
- Strap feed and strap tensioning
- Tensioning force adjustment (see operation manual P329)
- Cutting of the upper strap
- Welding time adjustment (see operation manual P329)
- Seal quality (see operation manual P329)
- Function of the LED - display

Proceed according to paragraph 1.4.2 after a fault appears.
For exchange of wearing parts see operation manual P329.



Attention!

Remove battery from tool before each maintenance work.

Never use water or solvents for cleaning the tool's surface.

1.4.2 Troubleshooting

Ensure before each tool repair that the battery is charged and the tool's specific strap is used

SYMPTOM	CAUSE	REMEDY
Tool doesn't work at all	Battery is empty or defective	Charge or replace battery
	Contact problems caused by a broken battery housing	Replace battery
	Contact problems caused by a damaged insertion part N51.2194 or damaged motor housings P32.8103 and P32.8105/96	Replace insertion part or motor housing
	Contact problem of the internal wires	Check contacts and fix them if required or change defective parts
	Defective circuit board	Replace circuit board
Tool doesn't tension	Tensioning wheel is dirty or worn	Clean tensioning wheel or replace it, don't use any hard objects for this (see operation manual P329)
	P32.8128 is not meshing with P32.8130 because spring N2.5296 is defective or parts are dirty	Replace spring N2.5296, clean dirty parts
	Faulty tensioning wheel or tensioning wheel is assembled reversed	Correct assembling (see operation manual P329)
	Grippers are dirty, worn or wrongly assembled	Replace grippers, clean them or assemble correct, don't use any hard objects for this (see operation manual P329)
	Gearing parts from the tensioning gear are defective	Check tensioning gear and replace defective parts
	Defective circuit board	Replace circuit board
	Defective gear bearings	Replace bearings
	Needle free wheeling N3.4509 in gear wheel P32.8139 or N3.4520 in conical gear wheel P32.8138 assembled reversed or defective	Assemble the needle free wheeling correct or replace it
Tensioning wheel turns back immediately after the tensioning cycle	Defective needle free wheeling N3.4509 in P32.8134	Check parts and replace if necessary

SYMPTOM	CAUSE	REMEDY
Tool doesn't weld	Welding gripper P32.1511 is dirty or worn	Replace or clean welding gripper, don't use any hard objects for this (see operation manual P329)
	Welding stop gripper P32.8107 is dirty or worn	Replace or clean welding stop gripper, don't use any hard objects for this (see operation manual P329)
	Damaged housing parts	Replace housing parts
	Defective circuit board	Replace circuit board
	Pressure spring N21.5138 defective	Replace pressure spring
	Needle free wheeling N3.4509 in P32.8139 defective or assembled reversed	Assemble the needle free wheeling correct or replace it
	Gearing parts of the welding gear are defective	Check welding gear and replace defective parts
	Gear motor N51.1127 defective	Replace Gear motor
	Toothed belt N4.3236 or Toothed belt pulley P32.8122 is worn	Replace Toothed belt or Toothed belt pulley
	Defective gear bearing	Replace bearing
Tool badly cuts the strap or doesn't cut at all	Cutter is worn or damaged	Replace cutter (see operation manual P329)
	Wrong adjustment of the coupler P35.0146	Check adjustment and readjust if necessary (see operation manual P329)
	Welding gripper P32.1511 is worn	Replace welding gripper (see operation manual P329)
	Welding time too short	Change adjustment (see operation manual P329)
	Defective pressure spring N2.5237	Replace pressure spring
Tool switches off after a few strappings (Displaying empty battery)	Battery defective or empty	Check the battery and change defective batteries
Gear noise	Tensioning or welding gear is worn	Check component parts and replace defective ones

1.4.3 Battery test

The battery should be checked while each maintenance with a battery tester. Information to the Battery tester you will get by FROMM System GmbH. (see 1.10 SERVICE ADDRESS)

- Li-Ion-Batteries 18V / (4,0Ah) must be replaced at a capacity less than approx. 60% (2,4 Ah)

1.4.4 Checklist

Carry out some test strappings and check following tool components.

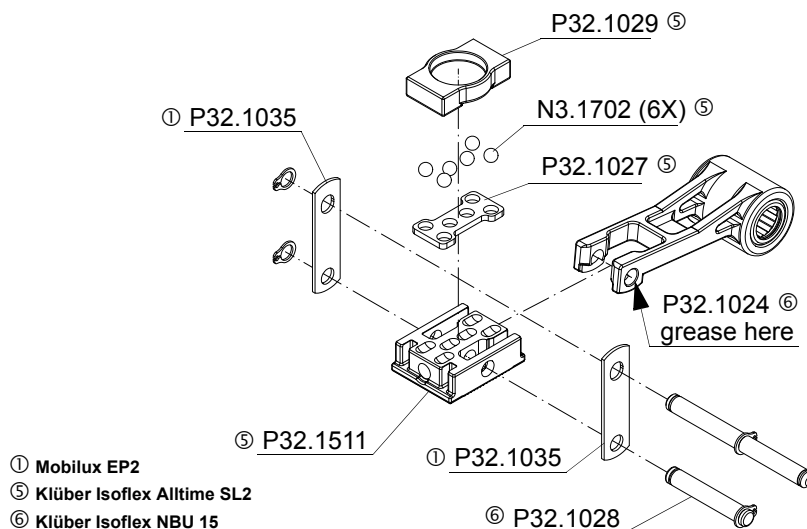
- Inserting of the strap
- Insert battery in the tool and check function of the LED-display (see operation manual P329)
- Strap feed and strap tension
- Tension force adjustment (see operation manual P329)
- Cutting of the upper strap
- Welding time adjustment (see operation manual P329)
- Seal quality (see operation manual P329)
- Function of the LED-display (see operation manual P329)
- Correct type label

1.4.5 Lubrication rules

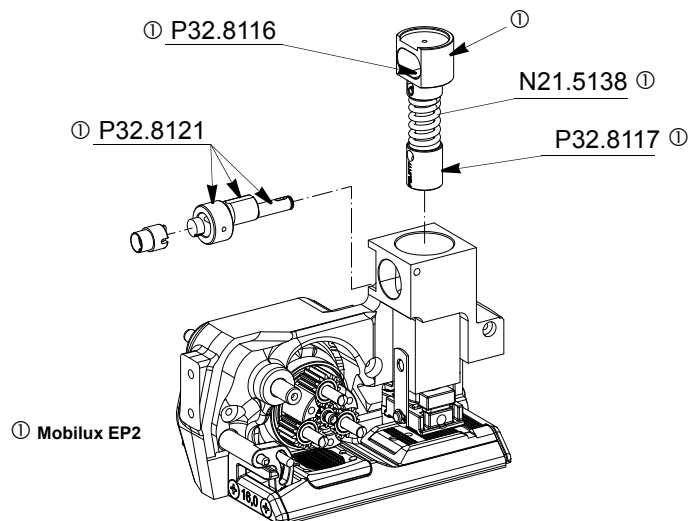
All gear parts have to be lubricated with **MOLYKOTE BR2 PLUS** grease.
All other parts have to be lubricated according to the explosion drawing.
Lubrication interval: While each maintenance or after 12 months at the latest.

Particular note:

All bearing parts of the welding unit have to be cleaned and lubricated as follows:

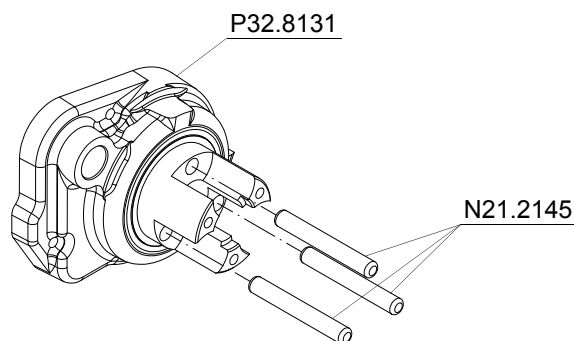


Eccentric shaft P32.8121, Spring slide P32.8116, Spring bolt P32.8117 and the Pressure spring N21.5138 have to be greased as follows:

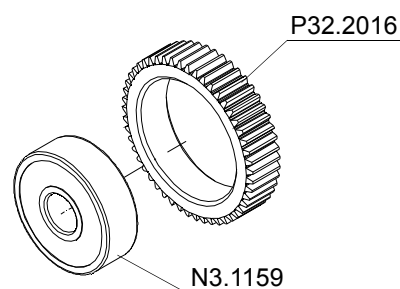


Lubrication interval: While each maintenance or after 12 months at the latest.

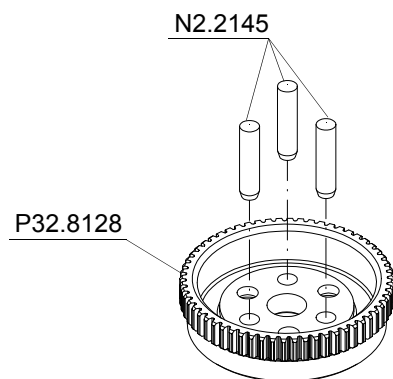
1.4.6 Glueing rules



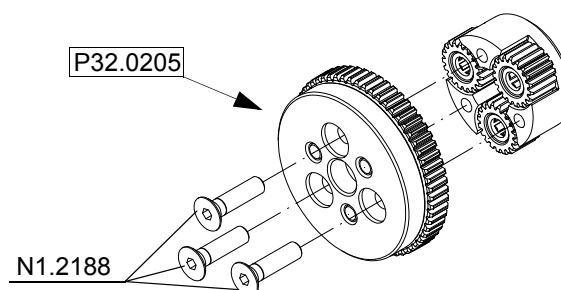
The parallel pins N21.2145 have to be glued into the gear body P32.8131 using **LOCTITE 603**.



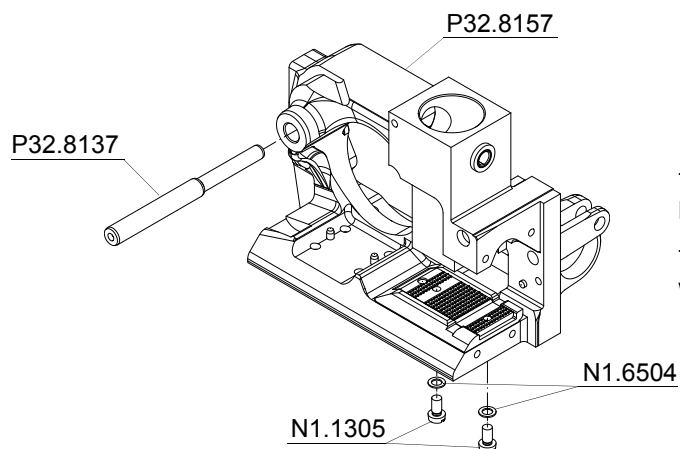
The Bearing N3.1159 has to be glued into the gear wheel P32.2016 with **LOCTITE 603**.



Gear wheel P32.8128 and parallel pins N2.2145 have to be glued with **LOCTITE 603**

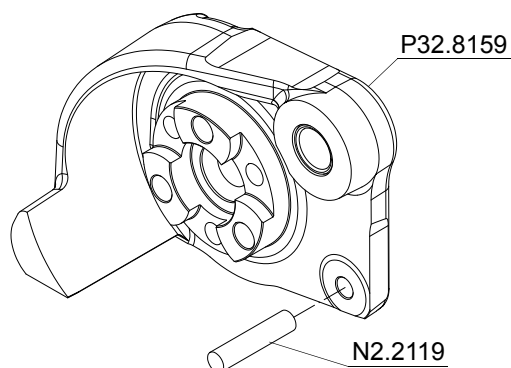


The screws N1.2188 have to be glued additionally in the wheel P32.0205 using **LOCTITE 222**.
Don't damage the teeth when loosening or tightening the screws.



The bolt P32.8137 has to be glued into the body P32.8157 using **Loctite 603**.

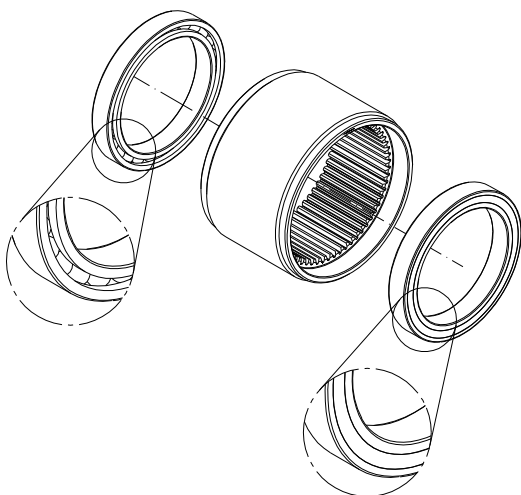
The screws N1.1305 have to be glued with **Loctite 222**.



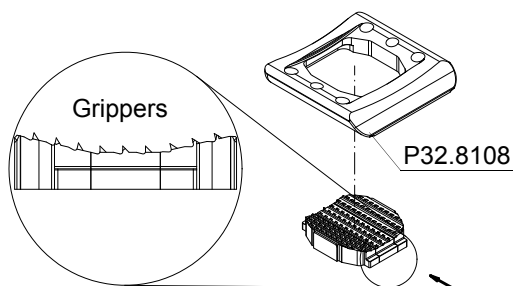
The parallel pin N2.2119 has to be glued into the end cover P32.8159 with **Loctite 603**.

1.4.7 Assembly information

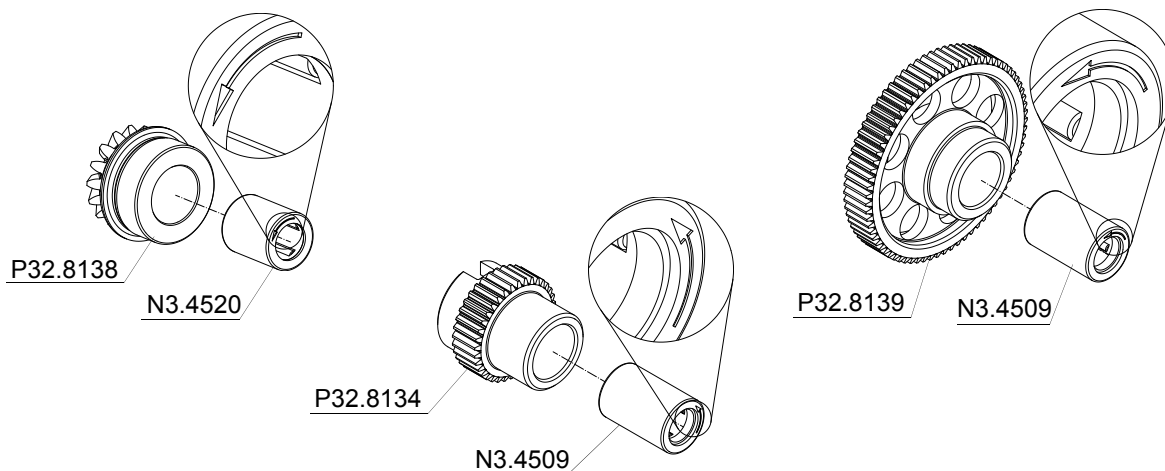
One sided sealed bearings N3.1172 in the tensioning wheel.
The sealed side has to face to the outside. (see drawing)



When **installing the grippers** into the holder P32.8108 pay attention to the direction of the teeth (see drawing).

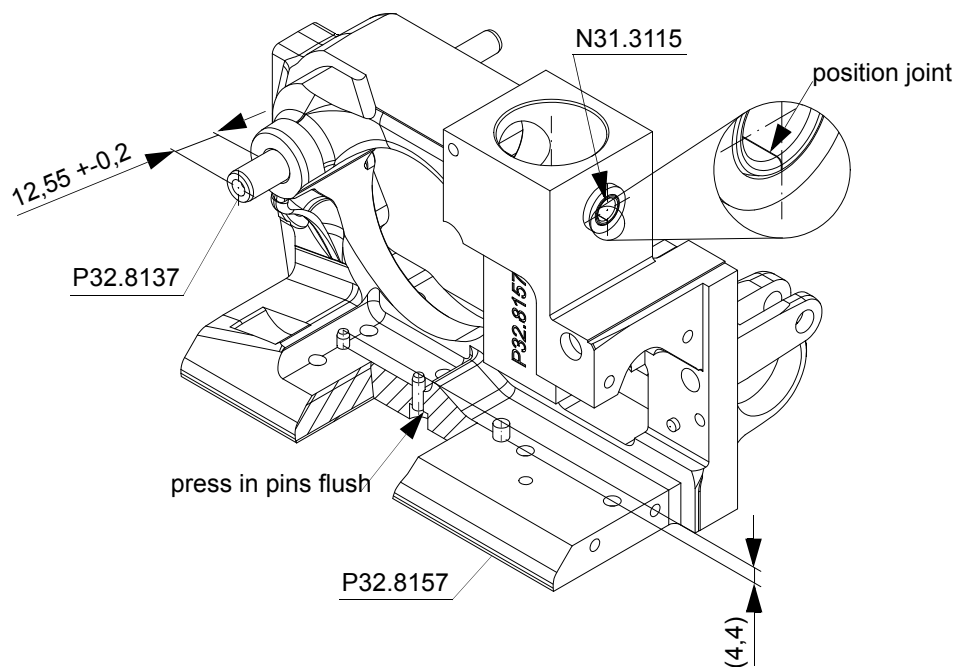


Pay attention to the **mounting position of the needle free wheelings** N3.4509 and N3.4520.
The rolling direction is stamped in at the front side of the free wheelings.

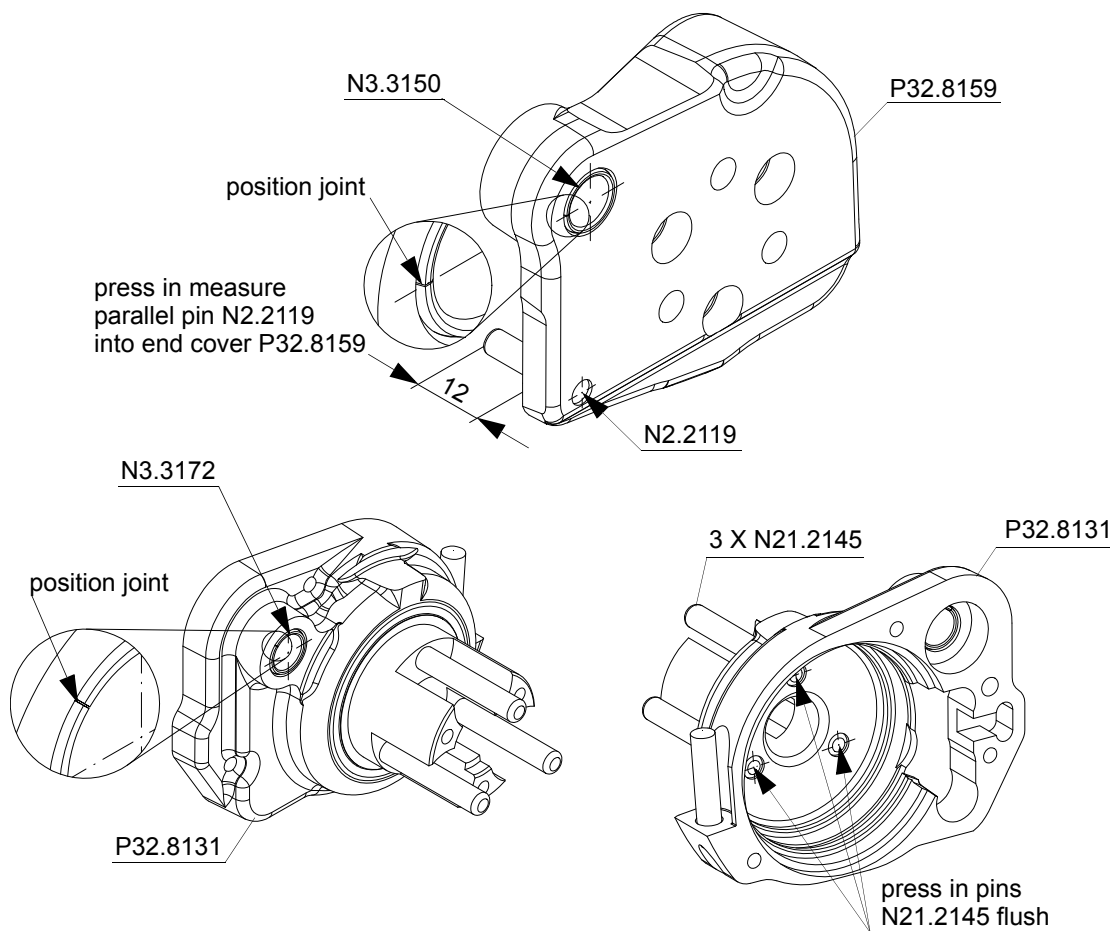


Position of the joint from slide bearings

Pay attention to the position of the joint from the slide bearing N31.3115 (see drawing).

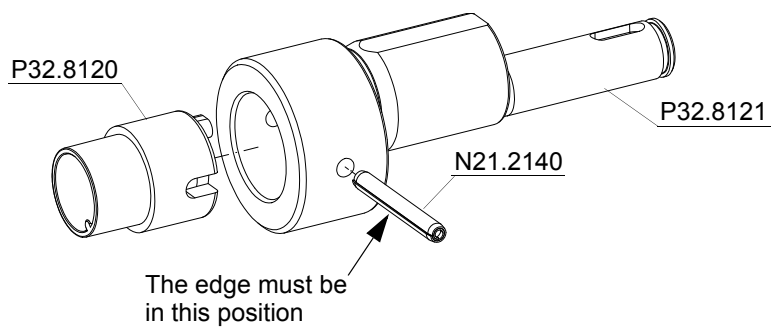


Pay attention to the position of the joint from the slide bearings N3.3172 and N3.3150. (see drawing)



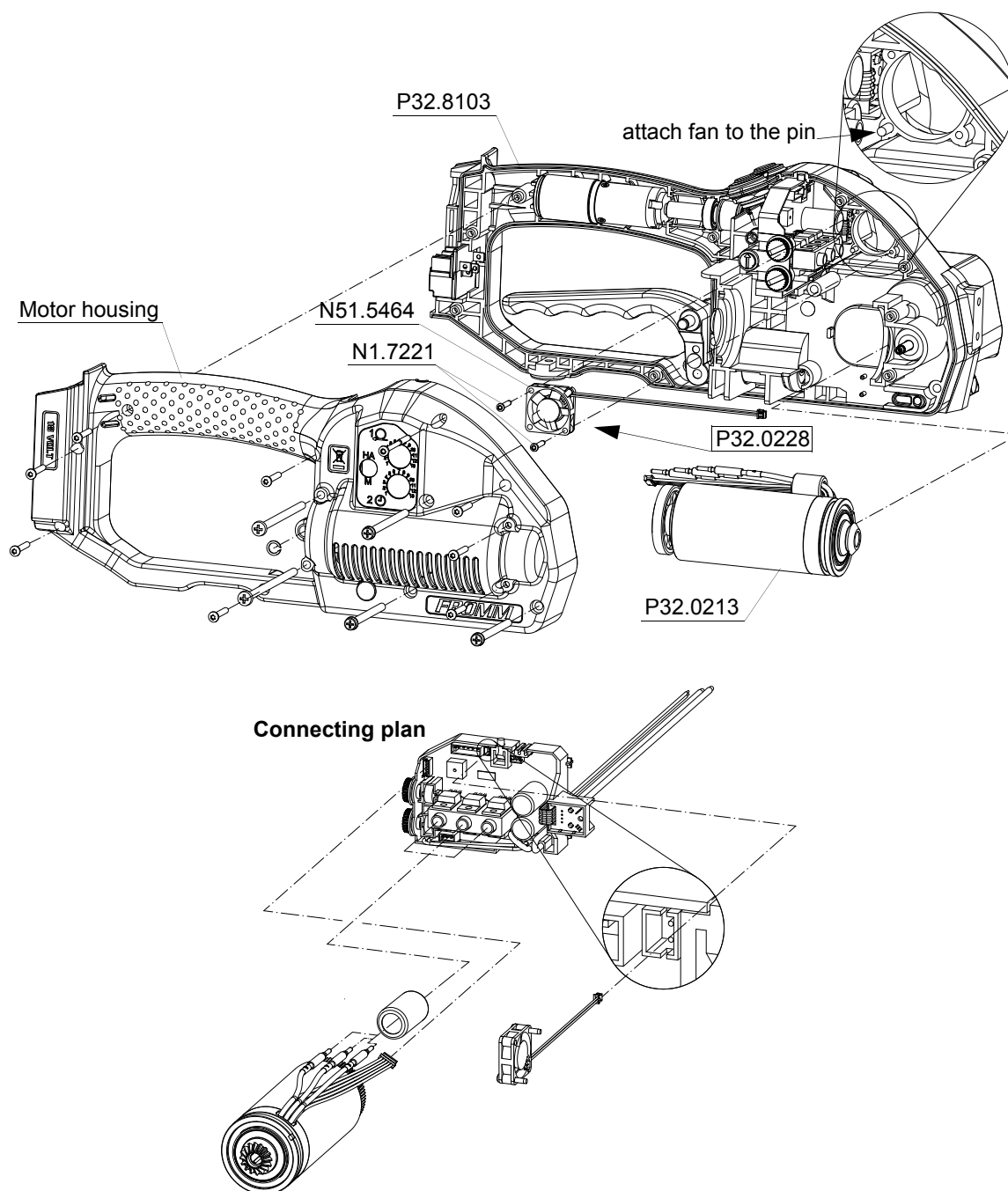
Mounting of dowel pin N21.2140

Mount the dowel pin N21.2140 in the shown position.



Mounting of the optional fan P32.0228:

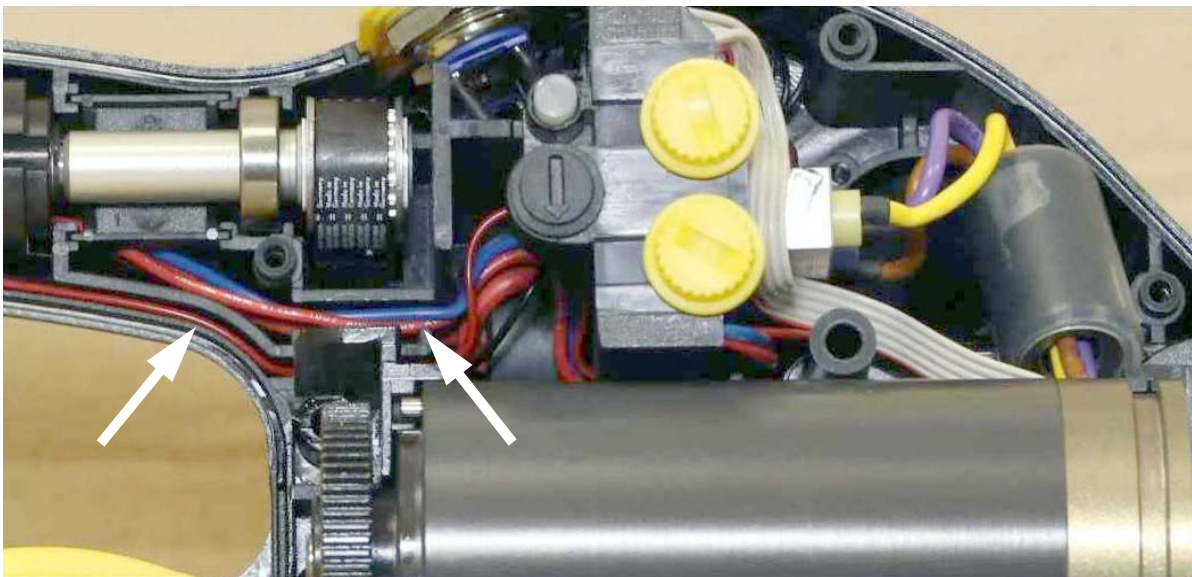
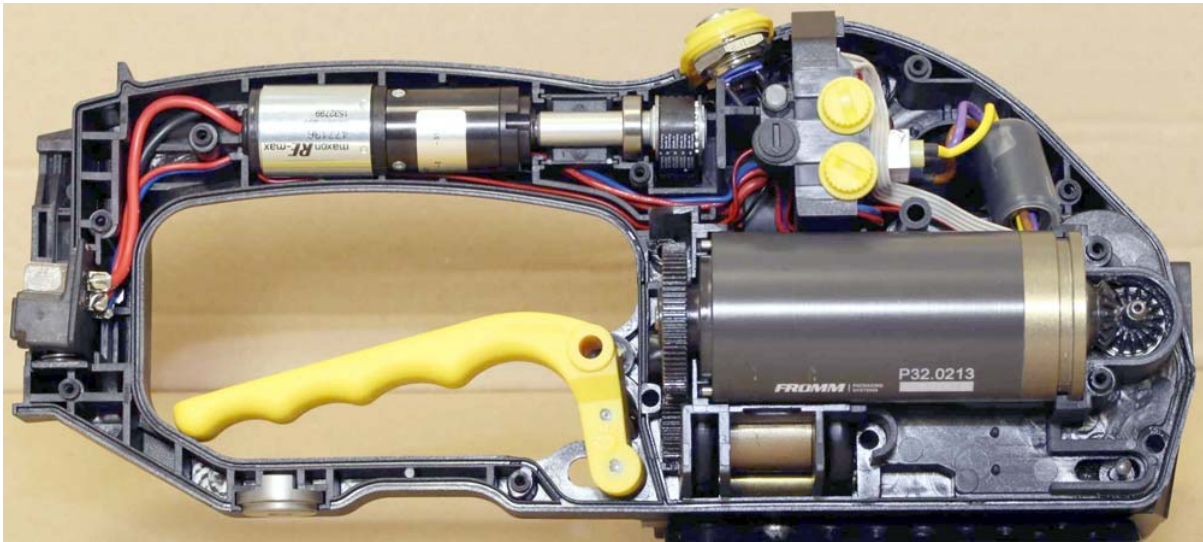
- Unscrew the motor housing and remove it.
- Disconnect the plugs of the motor P32.0213 from the circuit board. Remove the motor.
- Insert the fan N51.5464 at the prepared place. The cable shows up to the right.
- Attach the corresponding hole of the fan to the protruding pin of the motor housing P32.8103.
- Attach the fan with the supplied screws N1.7221.
- Plug in the connector on the shown place of the circuit board.
- Put in the motor and connect it. Take care that the colours of the connecting cables are conform to the connector sockets. The gear wheels of the motor have to touch their counterparts correctly.
- Before closing the motor housing take care that no cables can be jammed or damaged.
- Assemble the motor housing.



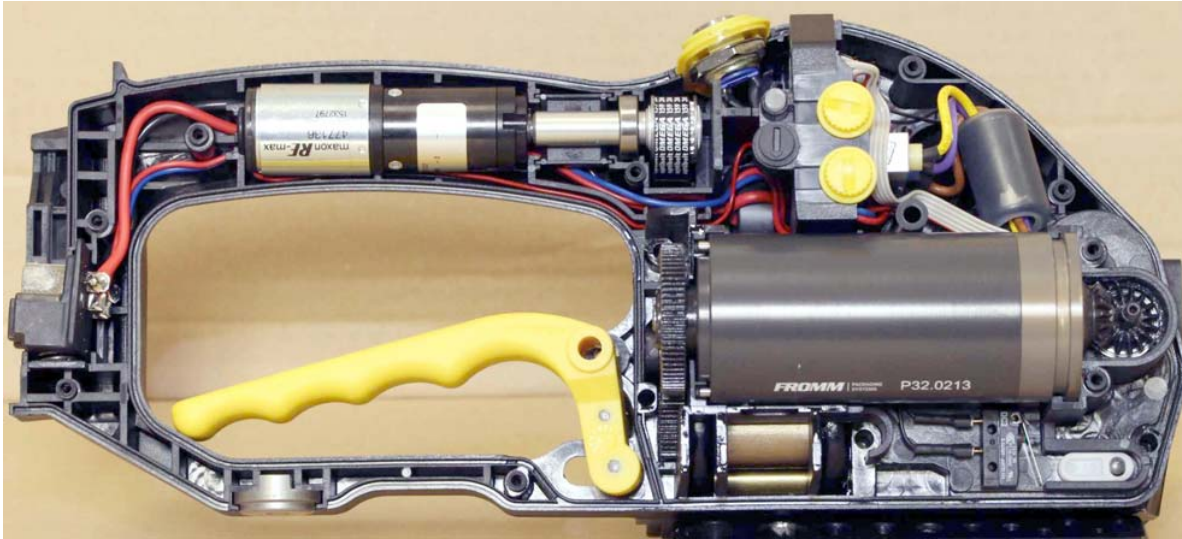
Laying of the cables

Wrong laid cables can be damaged during assembly of the device.
To avoid this the cables have to be laid in the appropriate cable guides like shown in the pictures.

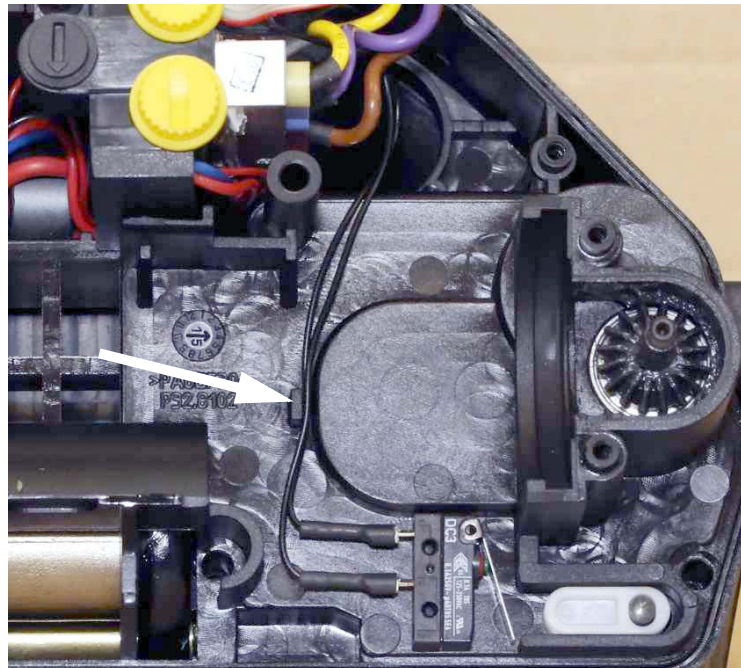
P329 M/HA



P329 A/A

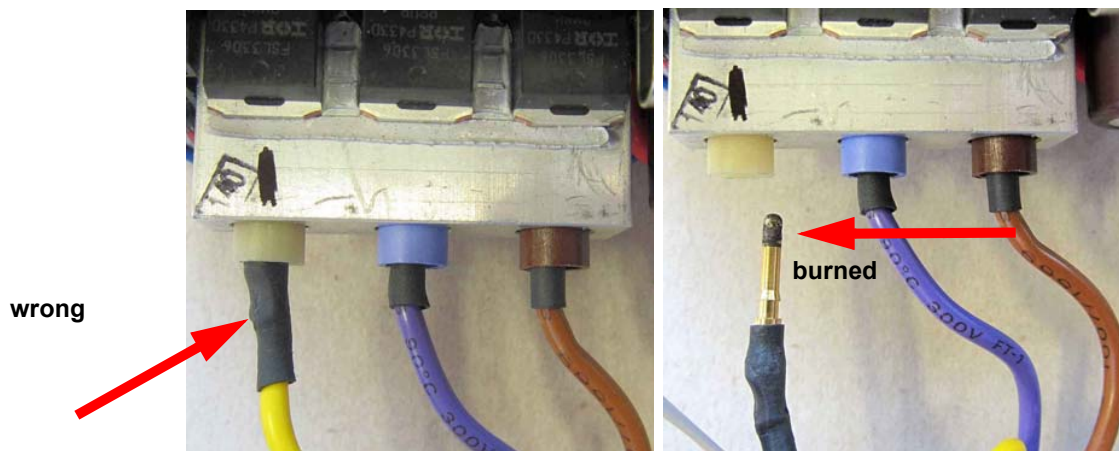
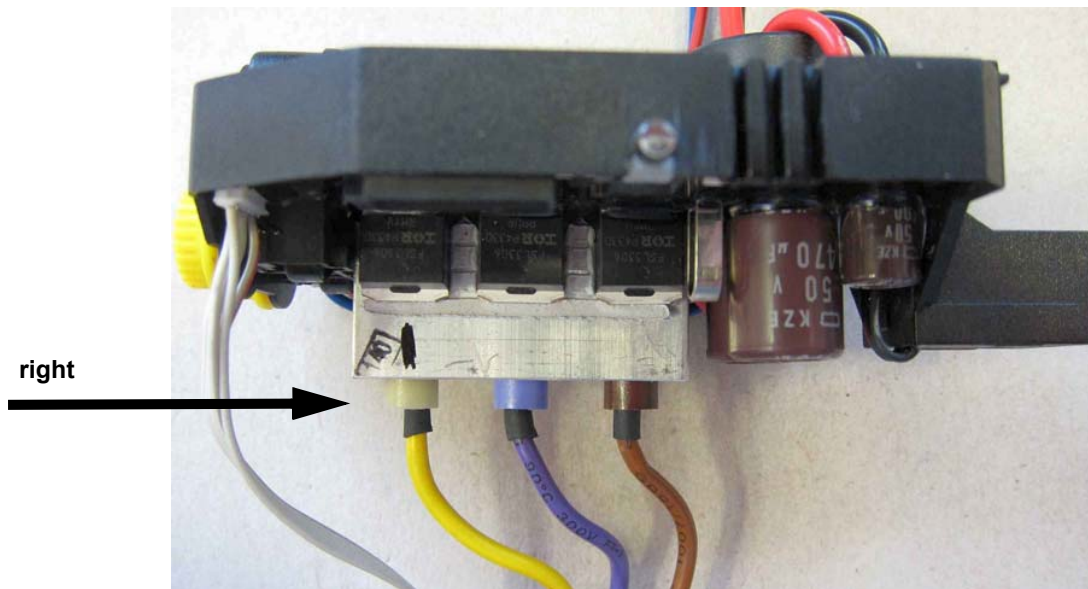


View without motor



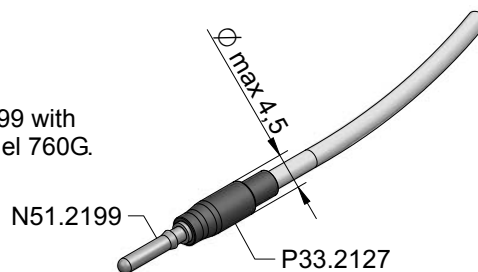
Sockets for the motor on the circuit board

Not fully plugged in plugs lead to burns at plugs and sockets and finally causing disturbances.
In order to avoid this, the plugs must always be fully inserted into the sockets and have to be greased with Nyogel 760G.



If defective plugs have to be changed take care to the max. Ø 4,5 mm.

Grease the plug N51.2199 with the contact grease Nyogel 760G.



1.5 RECOMMENDED SPARE PARTS

Following spare parts are recommended for stock keeping:

Item-No.	Description	Pieces per tool
N1.1196	Screw	3
N1.1305	Screw	6
N1.1928	Screw	1
N1.1934	Flat head screw	3
N1.1943	Screw	2
N1.1973	Screw	1
N1.6504	Safety washer	24
N1.7211	PT-screw	8
N2.1118	Security ring	2
N2.1121	Security ring	5
N2.1606	Spring ring	1
N3.1702	Ball	6
N3.4509	Free wheeling	2
N3.4520	Free wheeling	1
N51.1127*	Gear motor	1
N51.2194	Insertation part	1
P32.0218	Body	1
P32.0213*	Electric motor	1
P32.0229/30	Circuit board	1
P32.8103	Motor housing	1
P32.8105/96	Motor housing	1
P32.8150/54	Touch contact-switch	1
P32.1511*	Welding gripper	1
P32.1024	Rocker	1
P32.1028	Bolt	1
P32.1035	Driver	2
P32.8107*	Welding stop gripper	1
P32.8108	Holder	1
P32.8109*	Gripper	1
P32.8110*	Gripper	1
P32.8111*	Gripper	1
P32.8159	End cover	1
P35.3214*	Cutter	1
P35.3203*	Tensioning wheel	1

* = wearing parts

Stock only parts from tools that are in sale.

1.6 MAINTENANCE PLAN P329

Item-No.	Description	Strapping cycles			Comment
		80 000	160 000	240 000	
P35.3214	Cutter	new	new	new	
P35.3203	Tensioning wheel			checkup	
P32.8109, P32.8110, P32.8111	Gripper			checkup	
P32.8107	Welding stop gripper			checkup	
P32.1511	Welding gripper		new		
P32.1028	Bolt	new	new	new	
N3.4509 / N3.4520	Needle free wheeling (at Motor P32.0213)	new	new	new	defective needle free wheelings will damage the motor shaft
P32.0213	Motor			checkup	
N51.1127	Gear motor			checkup	
P32.0144	Rocker		new		including bearings
P32.8157 (P32.0218)	Body		checkup		
P32.0228	Fan (Optional)				check during each maintenance
N2.1121	Security ring				replace at each disassembling

new = replace after max. xxx Strapping cycles

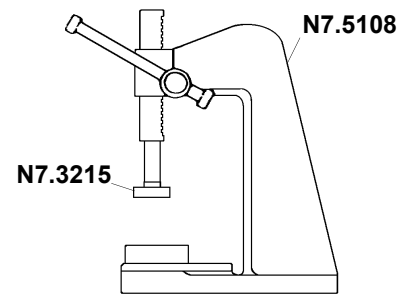
1.7 ACCESSORY TOOLS

Item number	Field	Description	Application
N71.3239	F1	Press in arbor	N3.2347/P32.1024
N71.3240	F1	Press out arbor	N3.2347/P32.1024
N71.3241	F1, F3	Pressure pad	N3.2347/P32.1024; N3.4509/P32.8134
N72.3227	F2	Arbor	N3.1178/P32.8126
N72.3228	F2	Pressure pad	N3.1178/P32.8126
N72.3229	F3	Pressure pad	N3.4509/P32.8134
N72.3230	F3	Arbor	N3.4509/P32.8134
N71.3248	F4	Press in arbor	N3.3150/P32.8159
N71.3250	F4, F7	Press out arbor	N3.3150/P32.8159; N3.3172/P32.8131
N71.3237	F5, F13	Arbor	N3.1159/P32.2016; N31.3115/P32.8157
N71.3283	F5	Pressure pad	N3.1159/P32.2016
--	F6	Commercial arbor	N2.2126/P32.8131
N72.3225	F6	Pressure pad	N2.2126/P32.8131
N7.3244	F7	Arbor	N3.3172/P32.8131
N71.3235	F8, F10	Arbor	N3.4520/P32.8138; N3.4509/P32.8139
N72.3222	F8, F12, F13	Arbor	N3.4520/P32.8138; P32.8137/P32.8157; N31.3115/P32.8157
N72.3223	F8	Pressure pad	N3.4520/P32.8138
N72.3214	F9, F11	Arbor	N31.1151/P32.8138; N31.1163/P32.8139
N72.3224	F9	Pressure pad	N31.1151/P32.8138
N72.3220	F10	Pressure pad	N3.4509/P32.8139
N71.3286	F11	Arbor	N31.1163/P32.8139
N72.3231	F11	Pressure pad	N31.1163/P32.8139
N72.3232	F12	Thrust piece	P32.8137/P32.8157
N72.3233	F13	Pressure pad	N31.3115/P32.8157
N71.3243	F14	Press in arbor	N3.1134, P32.8115/P32.1022
N71.3244	F14	Press out arbor	N3.1134, P32.8115/P32.1022
N72.3234	F14	Pressure pad	N3.1134, P32.8115/P32.1022
N72.3235	F15	Thrust piece	N2.2145/P32.8128

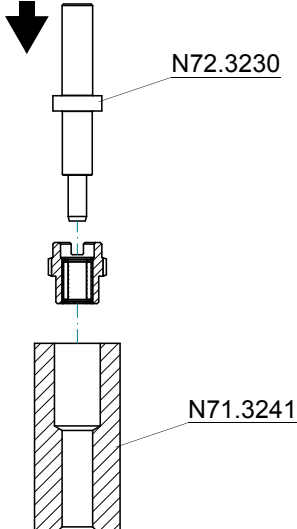
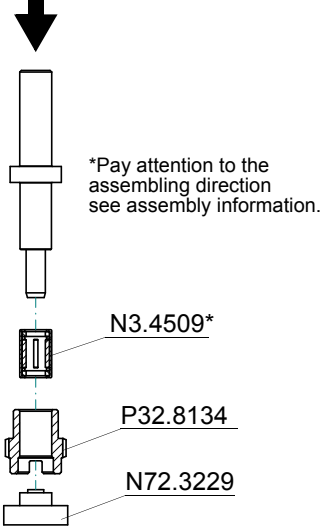
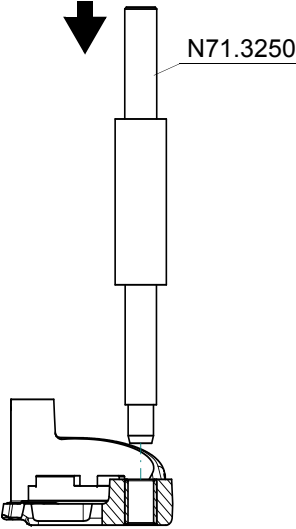
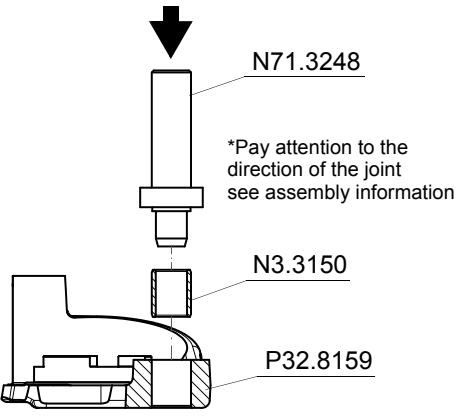
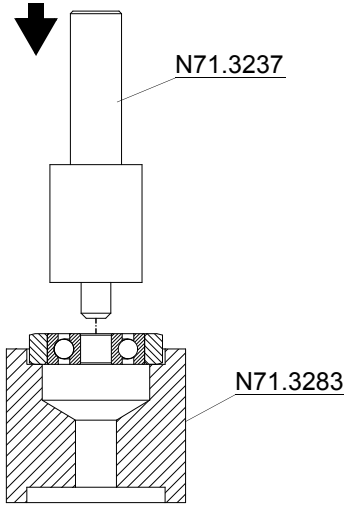
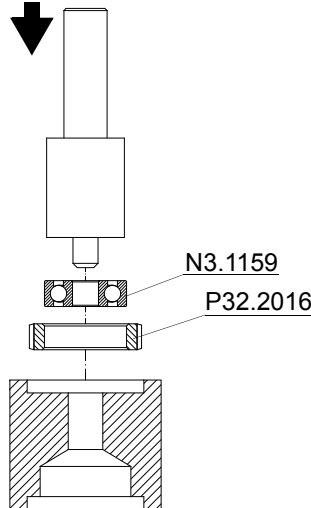
Partly some of these tools are already used for other models.

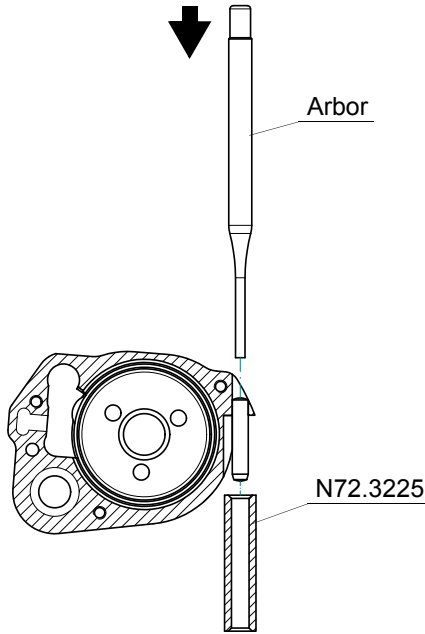
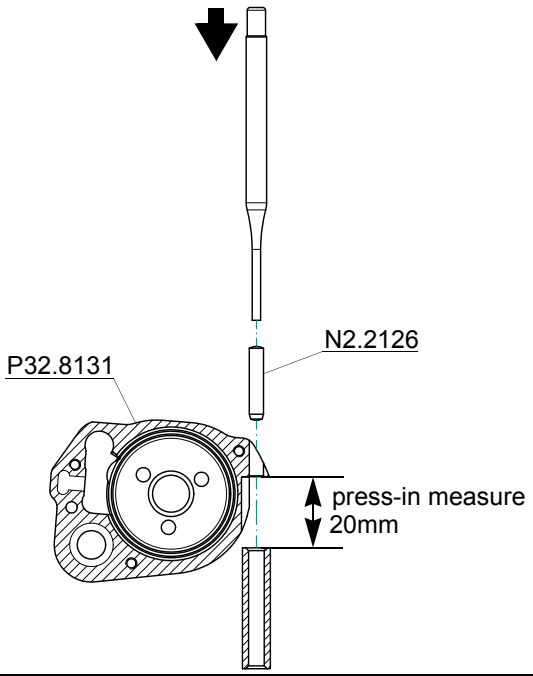
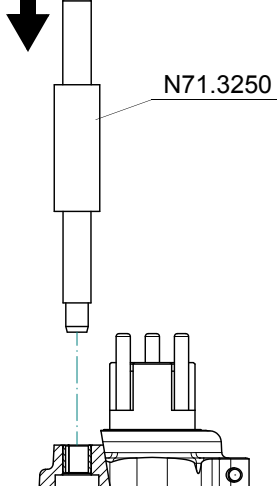
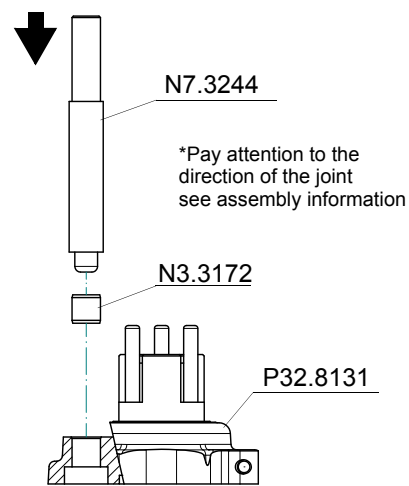
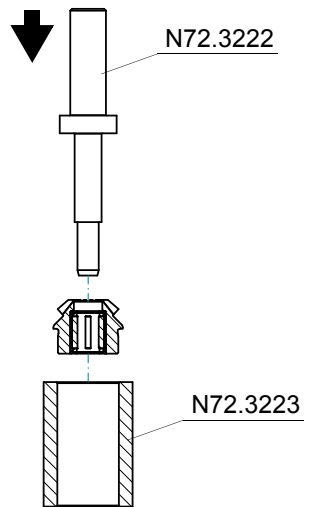
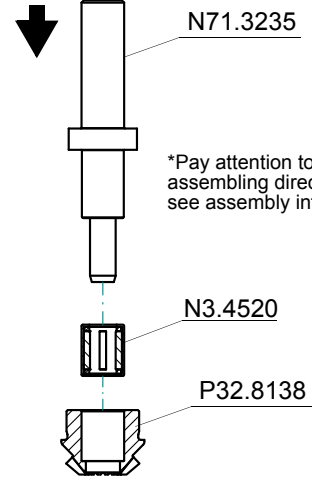
1.8 USE OF ACCESSORY TOOLS

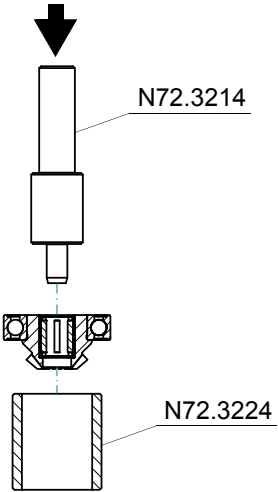
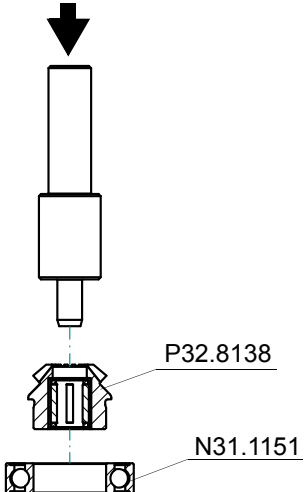
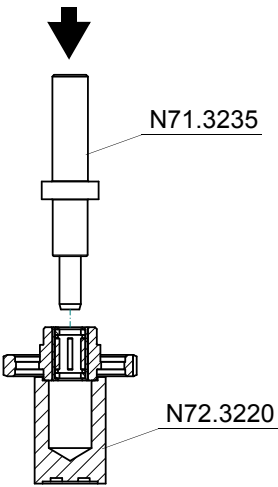
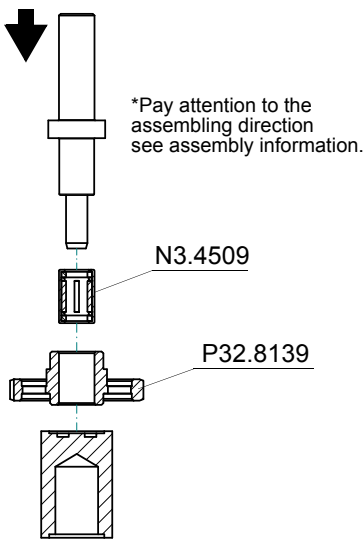
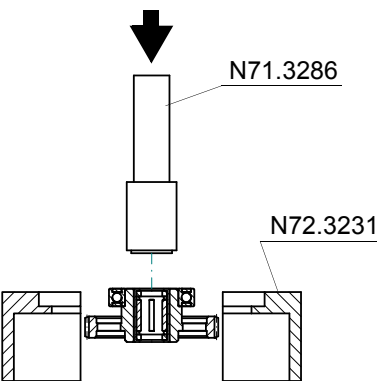
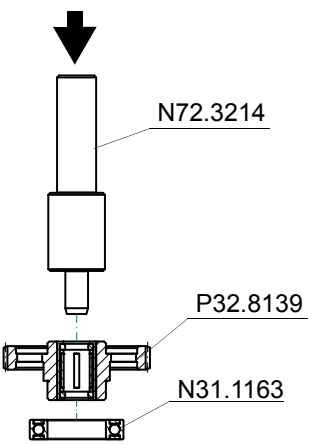
Accessory tools should only be used with the suitable arbor press N7.5108 to prevent a jam of the parts have to be pressed in. Additional a retainer (N7.3215) is necessary.

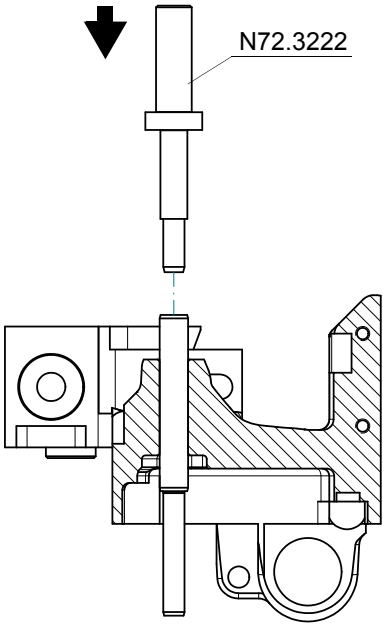
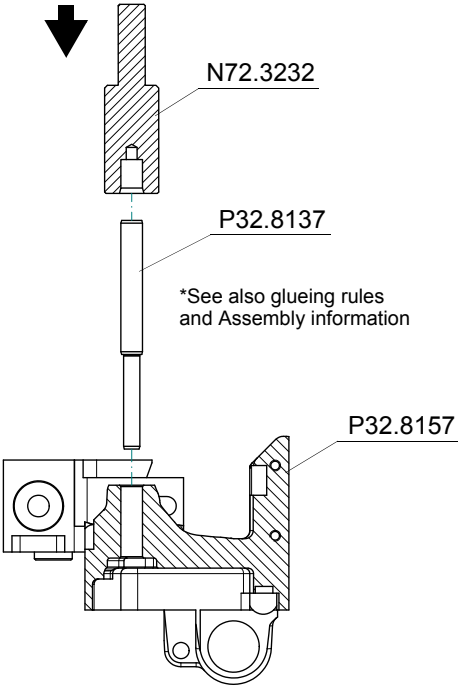
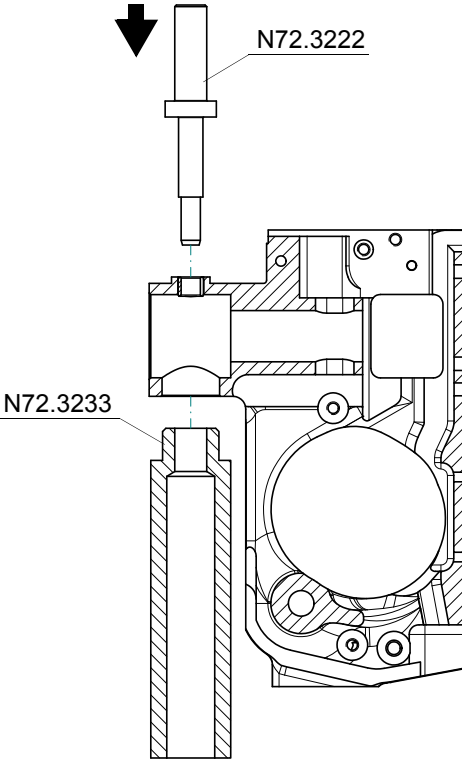
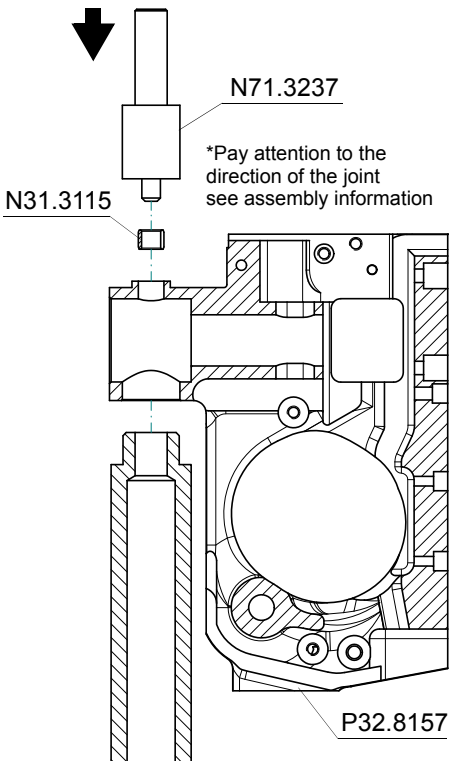


Part	Disassembly	Assembly
N3.2347/ P32.1024 F1	N71.3240 N71.3241	N71.3239 N71.3241 N3.2347 P32.1024 The seal of the needle bushing (N3.2347) has to face to the outside.
P32.8126/ N3.1178 F2	N7.3215 N72.3228	N72.3227 N3.1178 P32.8126

Part	Disassembly	Assembly
P32.8134/ N3.4509 F3		
P32.8159/ N3.3150 F4		
P32.2016/ N3.1159 F5		

Part	Disassembly	Assembly
P32.8131/ N2.2126 F6	 Arbor N72.3225	 N2.2126 P32.8131 press-in measure 20mm
P32.8131/ N3.3172 F7	 N71.3250	 N7.3244 *Pay attention to the direction of the joint see assembly information N3.3172 P32.8131
P32.8138/ N3.4520 F8	 N72.3222 N72.3223	 N71.3235 *Pay attention to the assembling direction see assembly information. N3.4520 P32.8138

Part	Disassembly	Assembly
P32.8138/ N31.1151 F9		
P32.8139/ N3.4509 F10		
P32.8139/ N31.1163 F11		

Part	Disassembly	Assembly
P32.8157/ P32.8137 F12	 N72.3222	 N72.3232 P32.8137 *See also glueing rules and Assembly information P32.8157
P32.8157/ N31.3115 F13	 N72.3222 N72.3233	 N71.3237 N31.3115 *Pay attention to the direction of the joint see assembly information P32.8157

Part	Disassembly	Assembly
P32.1022/ N3.1134/ P32.8115 F14		

Part	Assembly
P32.8128/ N2.2145 F15	*See also glueing rules *Attention! Different hole spacings

1.9 ORDERING SPARE PARTS

On principle spare part numbers should be taken from the drawings or spare parts lists. Check if the version number of the tool and the spare parts list are the same.

Type dependent spare parts should be ordered as follows:

Ordering example

Ordering a strap guide:

- Take item numbers of the strap guide from drawing (P32.8177/78)
- Find out the tool type in which the strap guide should be assembled (e.g. 43.2533)
- Find out the item number of the needed strap guide by using the type dependent spare parts lists (for type 43.2533 it is strap guide P32.8178).

Order as follows if 10 strap guides are needed:

P32.8178 Strap guide **10 pcs.**

1.9.1 Ordering manuals

When converting tools make sure that the used manual has still validity.

If tools change their item number because of the conversion (see chart of types) the adequate manual must be ordered as follows.

Ordering example:

Tool item number: 43.2533

Version number: 01

Language of the manual: de

The manual order for this tool must look as follows:

43253301.de

If the manual is needed in another language replace the shorthand expression "de" (see table).

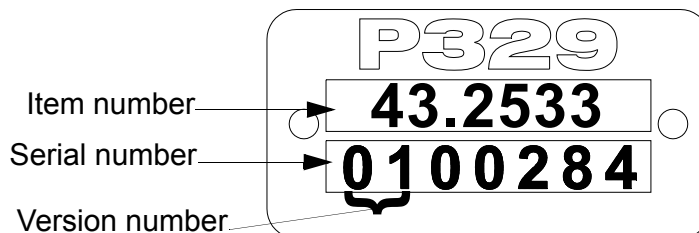
de	German
en	English
fr	French
it	Italian
nl	Dutch
po	Portuguese
se	Swedish
fin	Finnish
sp	Spanish
ru	Russian
cz	Czech
hu	Hungarian
pl	Polish
sk	Slovakian
tr	Turkish

1.9.2 Ordering address

Spare parts and manuals can be ordered at:

Fromm Holding AG
Hinterbergstrasse 26
CH-6330 Cham
Switzerland

Phone: +41(0) 41 741 57 41
Fax: +41(0) 41 741 57 60
e-mail: orders@fromm-pack.com

1.9.3 Finding out of the tool type (item number), the serial number and the version number:**Type label P329****1.10 SERVICE ADDRESS**

You will get further assistance and information at:

Fromm System GmbH
 Technical customer support
 Neulandstr. 10
 D-77855 Achern
 Germany

Phone: +49(0)7841 / 62 94-22
 Fax: +49(0)7841 / 62 94-11

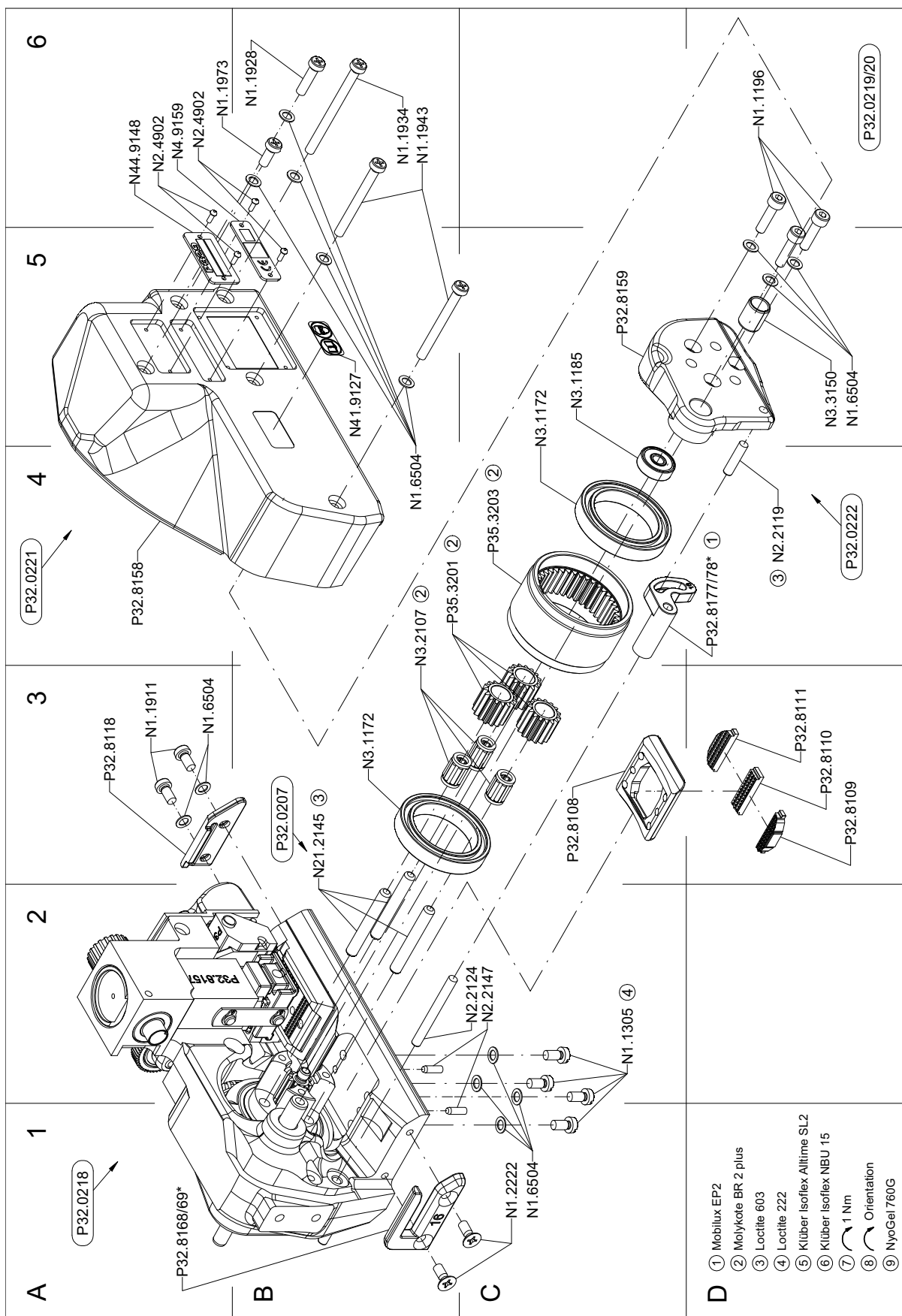
e-mail: de@fromm-pack.com

1.11 CHART OF TYPES**1.11.1 Chart of types P329 M / HA**

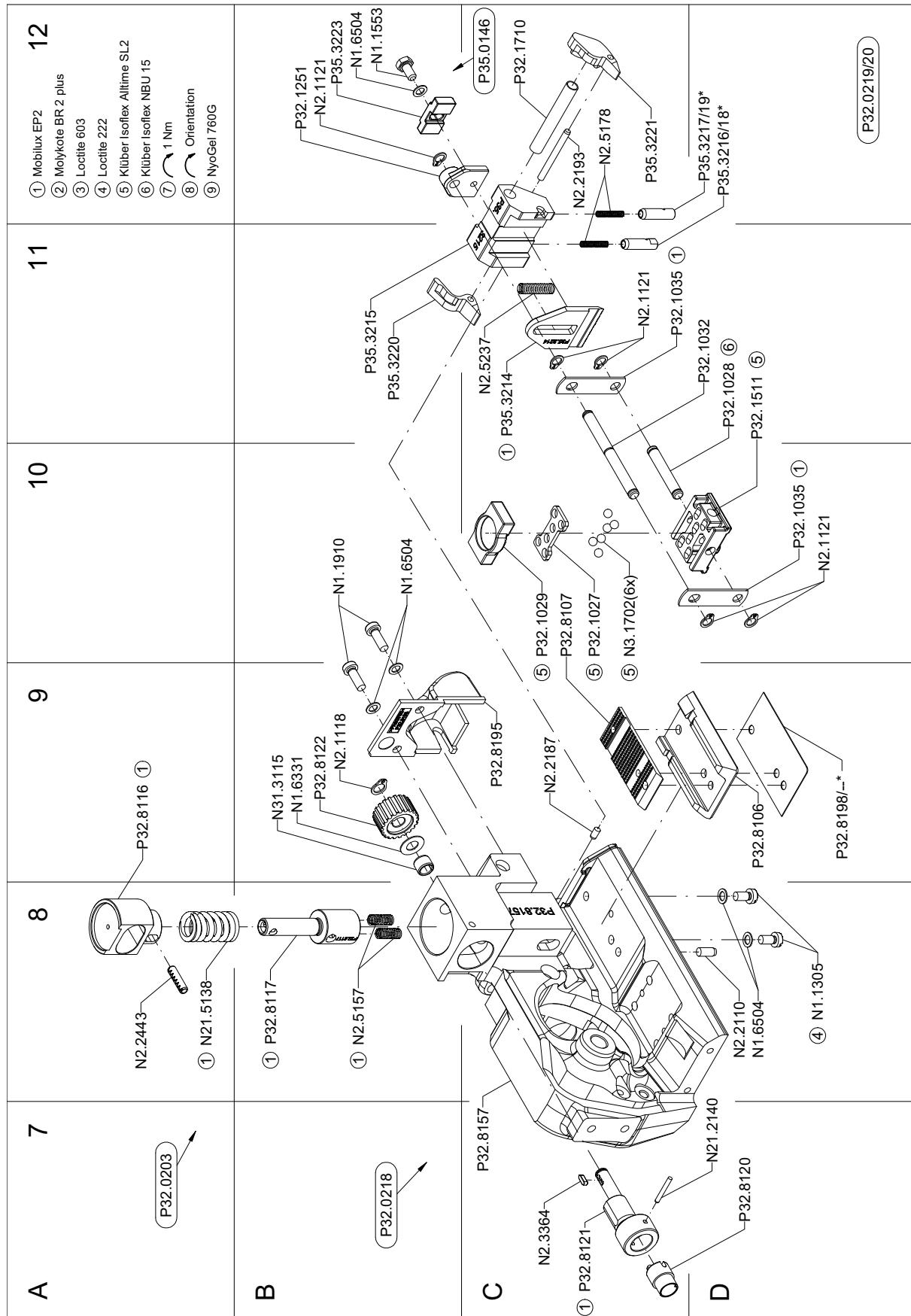
Item no.	Model	Strap width	Strap thickness
43.2522	P329/16/0.65-1.05	16 mm	0.65-1.05 mm
43.2532	P329/19/0.65-1.05	19 mm	0.65-1.05 mm
43.2533	P329/19/1.06-1.35	19 mm	1.06-1.35 mm

1.11.2 Chart of types P329 A / A

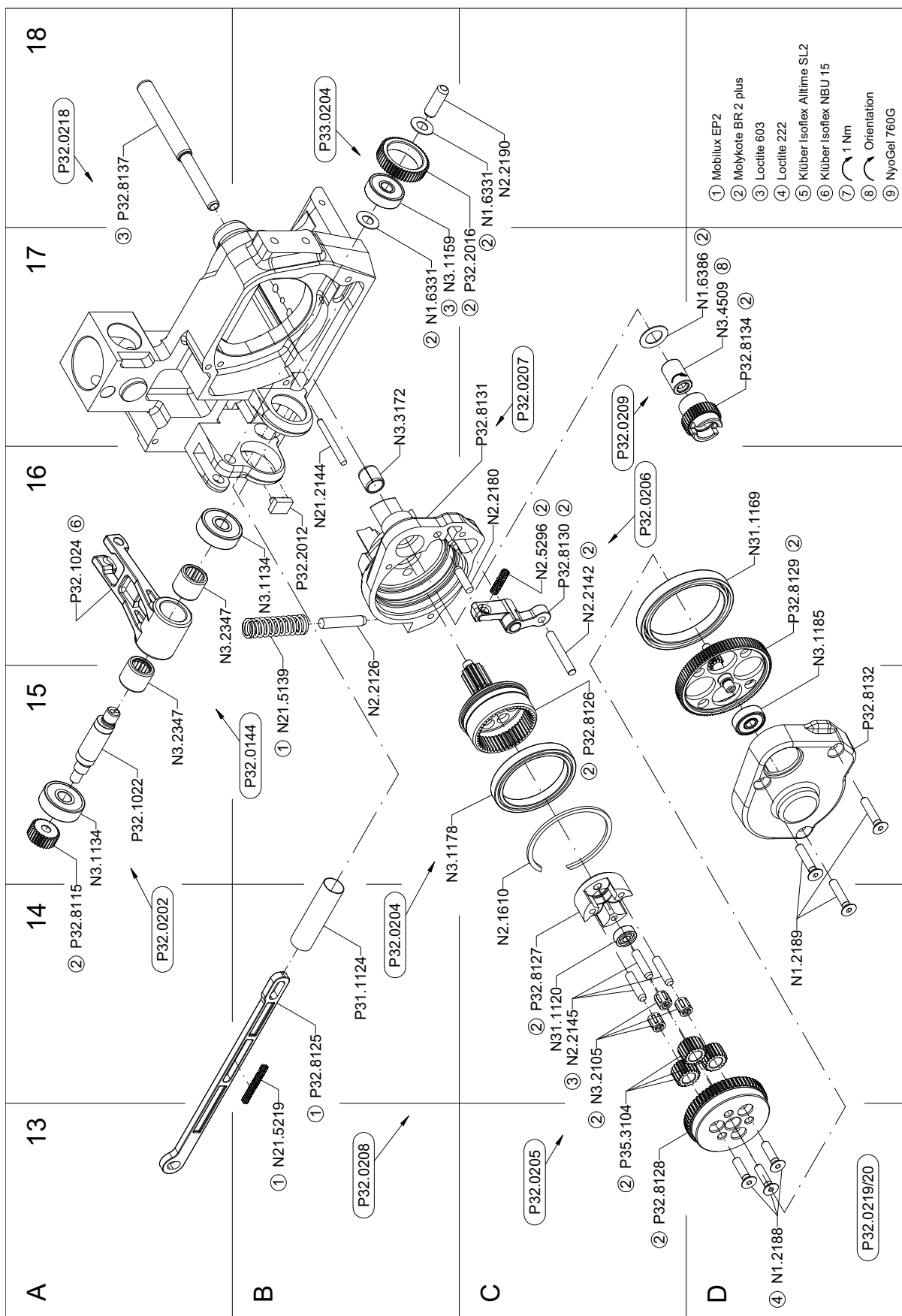
Item no.	Model	Strap width	Strap thickness
43.2722	P329/16/0.65-1.05/A	16 mm	0.65-1.05 mm
43.2732	P329/19/0.65-1.05/A	19 mm	0.65-1.05 mm
43.2733	P329/19/1.06-1.35/A	19 mm	1.06-1.35 mm



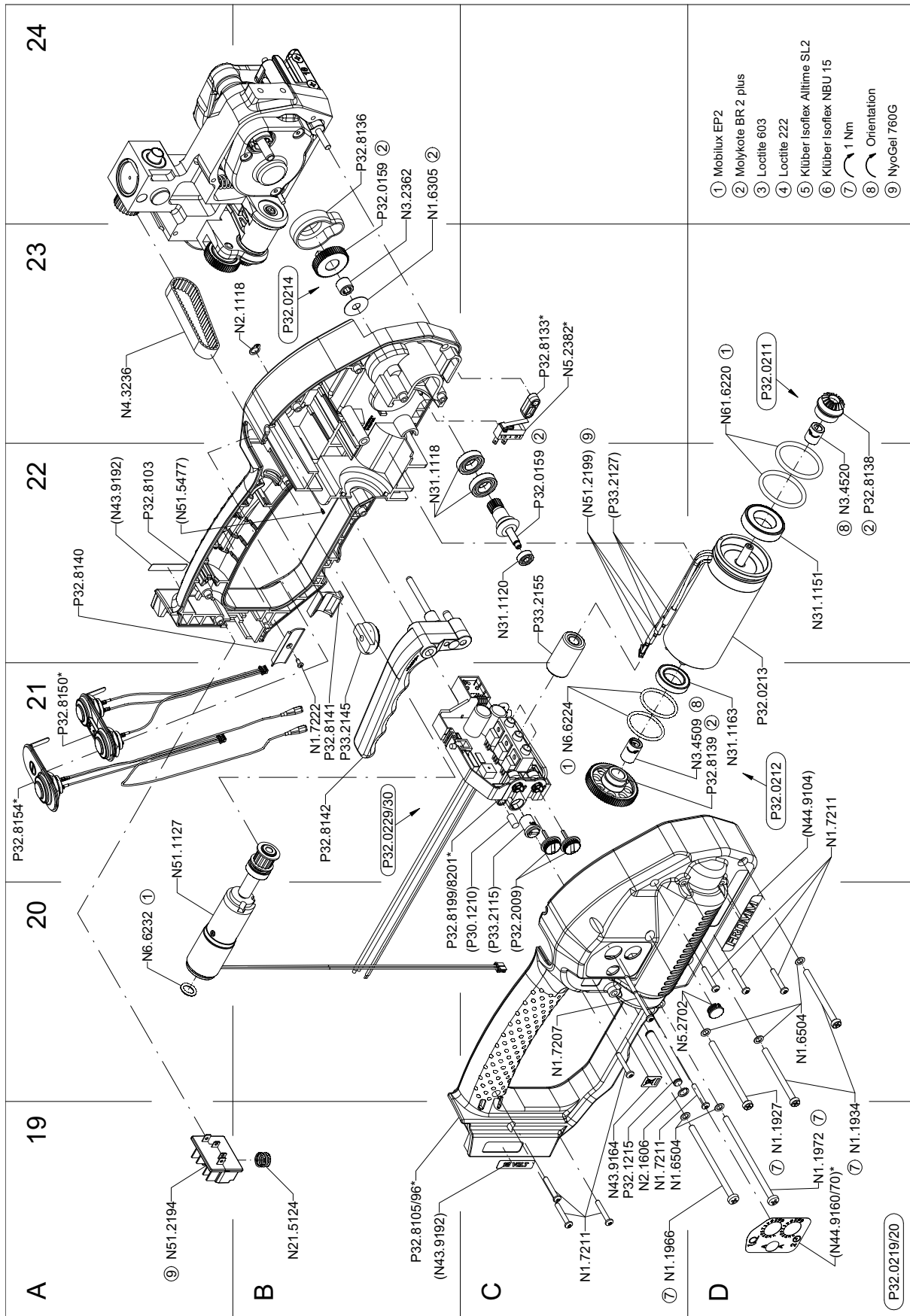
*see Ordering spare parts



*see Ordering spare parts



*see Ordering spare parts



*see Ordering spare parts

8 SPARE PARTS LIST P329**8.1 Type independent spare parts P329.0001.01 / P329.0002.01**

Item-No.		in group	Pcs.	Description	Dimension	Field
N1.1196			3	SCREW	M4 X 16	D6
N1.1305			6	SCREW	M4 X 7.8	C2+
N1.1553		P35.0146	1	HEXAGON SCREW	M4 X 8	B12
N1.1910			2	FLAT HEAD SCREW	M4 X 12	B10
N1.1911			2	FLAT HEAD SCREW	M4 X 8	A3
N1.1927		P32.0219/20	1	FLAT HEAD SCREW	M4 X 60	D19
N1.1928			1	FLAT HEAD SCREW	M4 X 16	B6
N1.1934			1	FLAT HEAD SCREW	M4 X 50	B6
N1.1934		P32.0219/20	2	FLAT HEAD SCREW	M4 X 50	D19
N1.1943			2	FLAT HEAD SCREW	M4 X 40	B6
N1.1966		P32.0219/20	1	SCREW	M4 X 70	C19
N1.1972		P32.0219/20	1	SCREW	M4 X 80	D19
N1.1973			1	FLAT HEAD SCREW	M4 X 10	A6
N1.2188		P32.0205	3	COUNTERSUNK SCREW	M4 X 16	D13
N1.2189		P32.0208	3	COUNTERSUNK SCREW	M4 X 20	D14
N1.2222			2	COUNTERSUNK SCREW	M4 X 10	C1
N1.6305		P32.0219/20	1	SPACER WASHER	6 X 18 X 0.5	B24
N1.6331		P32.0219/20	3	SPACER WASHER	6 X 12 X 0.5	C18+
N1.6386		P32.0219/20	1	SPACER WASHER	9 X 15 X 0.50	D17
N1.6504			18	SAFETY WASHER	M4	B4+
N1.6504		P32.0219/20	5	SAFETY WASHER	M4	D20+
N1.6504		P35.0146	1	SAFETY WASHER	M4	B12
N1.7207		P32.0219/20	1	PT-SCREW	3 X 40	C20
N1.7211		P32.0219/20	8	PT-SCREW	3 X 20	C19+
N1.7222		P32.0219/20	1	PT-SCREW	2.2 X 5	B21
N2.1118		P32.0219/20	2	SECURITY RING	6	B9+
N2.1121			1	SECURITY RING	5	B12
N2.1121		P32.0219/20	4	SECURITY RING	5	C11+
N2.1606		P32.0219/20	1	SPRING RING	SW6	C19
N2.1610		P32.0208	1	SPRING RING	SB44	C14
N2.2110		P32.0218	1	PARALLEL PIN	4 m6 X 10	D8
N2.2119		P32.0222	1	PARALLEL PIN	4 m6 X 18	D4
N2.2124			1	PARALLEL PIN	4 m6 X 40	C2
N2.2126		P32.0207	1	PARALLEL PIN	5 m6 X 26	B15
N2.2142		P32.0206	1	PARALLEL PIN	4 m6 X 28	C16
N2.2145		P32.0205	3	PARALLEL PIN	4 h6 X 18	C14
N2.2147		P32.0218	2	PARALLEL PIN	3 m6 X 10	C2
N2.2180		P32.0208	1	PARALLEL PIN	4 m6 X 16	C16
N2.2187		P32.0218	1	PARALLEL PIN	3 m6 X 6	C9
N2.2190		P32.0219/20	1	PARALLEL PIN	6 h6 X 18	C18
N2.2193			1	PARALLEL PIN	3 m6 X 32	C12
N2.2443		P32.0203	1	DOWEL PIN	4 X 15	A8
N2.3364		P32.0219/20	1	FEATHER KEY	2 X 2 X 6	C7
N2.4902			2	HAMMER HEAD BOLT	1.85 X 4.76	A6
N2.4902		P32.0221	2	HAMMER HEAD BOLT	1.85 X 4.76	A6
N2.5157		P32.0219/20	2	PRESSURE SPRING	0.6 X 4.8 X 20/15.5	B8
N2.5178			2	PRESSURE SPRING	0.32X2.82X20.5/20.5	C12
N2.5237			1	PRESSURE SPRING	0.8 X 4.8 X 25/18.5	C11
N2.5296		P32.0208	1	PRESSURE SPRING	0.5 X 4 X 24/16.5	C16
N21.2140		P32.0219/20	1	DOWEL PIN	2 X 16	D7

[] = Group

* = Wearing parts

Item-No.		in group	Pcs.	Description	Dimension	Field
N21.2144		P32.0219/20	1	PARALLEL PIN	3 h6 X 30	B16
N21.2145		P32.0207	3	PARALLEL PIN	5 h6 X 37.3	B3
N21.5124		P32.0219/20	1	PRESSURE SPRING	0.9 X 10 X 15/5.5	B19
N21.5138		P32.0203	1	PRESSURE SPRING	2.5 X 14.2 X 33.5/7.5	A8
N21.5139		P32.0219/20	1	PRESSURE SPRING	1.25 X 9.8 X 45/14.5	B15
N21.5219		P32.0219/20	1	PRESSURE SPRING	0.43 X 3.6 X 32.9/27.5	B13
N3.1134		P32.0202	1	BALL BEARING	7 X 22 X 7	A15
N3.1134		P32.0219/20	1	BALL BEARING	7 X 22 X 7	B16
N3.1159		P33.0204	1	BALL BEARING	6 X 19 X 6	B17
N3.1172			2	BALL BEARING	30 X 42 X 7	B3+
N3.1178		P32.0204	1	BALL BEARING	35 X 44 X 5	B15
N3.1185			1	BALL BEARING	5 X 16 X 5	C5
N3.1185		P32.0208	1	BALL BEARING	5 X 16 X 5	D16
N3.1702		P32.0219/20	6	BALL	4 MM	C10
N3.2105		P32.0205	3	NEEDLE CAGE	K 4 X 7 X 7 TN	C14
N3.2107			3	NEEDLE CAGE	K 5 X 9 X 13 TN	B4
N3.2347		P32.0144	2	NEEDLE BUSH	10 X 14 X 12	A15+
N3.2362		P32.0214	1	NEEDLE BUSH	6 X 10 X 8	B24
N3.3150		P32.0222	1	SLIDE-BEARING	8 X 10 X 12	D5
N3.3172		P32.0207	1	SLIDE-BEARING	8 X 10 X 10	B17
N3.4509		P32.0209	1	NEEDLE FREE WHEELING	6 X 10 X 15	D17
N3.4509		P32.0212	1	NEEDLE FREE WHEELING	6 X 10 X 15	D21
N3.4520		P32.0211	1	FREE-WHEELING	6 X 10 X 12	D22
N31.1118		P32.0219/20	2	BALL BEARING	10 X 19 X 5	B22
N31.1120		P32.0205	1	BALL BEARING	4 X 11 X 4	C14
N31.1120		P32.0219/20	1	BALL BEARING	4 X 11 X 4	C22
N31.1151		P32.0219/20	1	BALL BEARING	17 X 30 X 7	D22
N31.1163		P32.0212	1	BALL BEARING	15 X 24 X 5	D21
N31.1169		P32.0205	1	BALL BEARING	40 X 50 X 6	D16
N31.3115		P32.0218	1	SLIDE-BEARING	6 X 8 X 6	B9
N4.3236		P32.0219/20	1	TOOTHED BELT	9 MM	A23
N4.9159		P32.0221	1	LABEL	<<CE>>	A6
N41.9127		P32.0221	1	ADHESIVE LABEL	20 X 10 X 0.1	B5
N43.9164		P32.8105/96	1	ADHESIVE LABEL	WEEE	C19
N43.9192		P32.8103	1	ADHESIVE LABEL	18 Volt	A22
N43.9192		P32.8105/96	1	ADHESIVE LABEL	18 Volt	B19
N44.9104		P32.8105/96	1	ADHESIVE LABEL	<<FROMM>>	D21
N44.9148			1	TYPE PLATE	<<P329>>	A6
N5.2702			1	COVER		C20
N51.1127		P32.0219/20	1	GEAR MOTOR		A21
N51.2194		P32.0229/30	1	INSERTATION PART		A19
N51.2199		N51.1111	3	CONTACT PLUG		C22
N51.5477		P32.8103	1	SPRING PIN		A22
N6.6224		P32.0219/20	2	O-RING	24 X 2	C21
N6.6232		P32.0219/20	1	O-RING	8 X 2	A20
N61.6220		P32.0219/20	2	O-RING	29.5 X 3	D23
P30.1210		P32.8199/ P32.8201	1	HOLDING-DOWN CLAMP		C20
P31.1124		P32.0218	1	TUBE		B14
[P32.0144]		P32.0219/20	1	ROCKER		B15
P32.0159		P32.0219/20	1	PINION		C22
[P32.0202]		P32.0219/20	1	WELDING EXCENTRIC		A14
[P32.0203]		P32.0219/20	1	SPRING BOLT		A7
[P32.0204]		P32.0208	1	GEAR WHEEL		B14

[] = Group

* = Wearing parts

Item-No.		in group	Pcs.	Description	Dimension	Field
[P32.0205]		P32.0208	1	IDLER STEP		C13
[P32.0206]		P32.0208	1	LEVER		C16
[P32.0207]		P32.0208	1	GEAR BODY		C17+
[P32.0208]		P32.0219/20	1	GEAR		B13
[P32.0209]		P32.0219/20	1	GEAR WHEEL		C17
[P32.0211]		P32.0219/20	1	CONICAL GEAR WHEEL		D23
[P32.0212]		P32.0219/20	1	GEAR WHEEL		D21
P32.0213	*	P32.0219/20	1	MOTOR		D21
[P32.0214]		P32.0219/20	1	GEAR WHEEL		B23
[P32.0218]		P32.0219/20	1	BODY		A1+
[P32.0221]			1	COVER		A4
[P32.0222]			1	END COVER		D4
P32.1022		P32.0202	1	WELDING EXCENTRIC		A15
P32.1024		P32.0144	1	ROCKER		A16
P32.1027		P32.0219/20	1	BALL CAGE		C10
P32.1028		P32.0219/20	1	BOLT		D11
P32.1029		P32.0219/20	1	THRUST PIECE		C10
P32.1032		P32.0219/20	1	DRIVING PIN		D11
P32.1035		P32.0219/20	2	DRIVER		C11+
P32.1215		P32.0219/20	1	HANDLE SHAFT		C19
P32.1251		P35.0146	1	PUSHER		B12
P32.1511	*	P32.0219/20	1	WELDING GRIPPER		D11
P32.1710			1	CENTERING SLEEVE		C12
P32.2009		P32.8199/ P32.8201	2	TURNING BUTTON		C20
P32.2012		P32.0219/20	1	GUIDE		B16
P32.2016		P33.0204	1	GEAR WHEEL		C17
[P32.8103]		P32.0219/20	1	MOTOR HOUSING		A22
P32.8106			1	STEEL INSERT		D9
P32.8107	*		1	WELDING STOP GRIPPER		C10
P32.8108			1	HOLDER		C3
P32.8109	*		1	GRIPPER		D3
P32.8110	*		1	GRIPPER		D3
P32.8111	*		1	GRIPPER		D3
P32.8115		P32.0202	1	PINION		A14
P32.8116		P32.0203	1	SPRING SLIDE		A9
P32.8117		P32.0203	1	SPRING BOLT		B8
P32.8118			1	STRAP GUIDE PLATE		A3
P32.8120		P32.0219/20	1	MAGNET		D7
P32.8121		P32.0219/20	1	ECCENTRIC SHAFT		C7
P32.8122		P32.0219/20	1	TOOTHED BELT PULLEY		B9
P32.8125		P32.0219/20	1	PUSHER		B14
P32.8126		P32.0204	1	GEAR WHEEL		C15
P32.8127		P32.0205	1	PLANET SHAFT		C14
P32.8128		P32.0205	1	GEAR WHEEL		C13
P32.8129		P32.0208	1	GEAR WHEEL		D16
P32.8130		P32.0206	1	LEVER		C16
P32.8131		P32.0207	1	GEAR BODY		C17
P32.8132		P32.0208	1	GEARING COVER		D15
P32.8134		P32.0209	1	GEAR WHEEL		D17
P32.8136		P32.0219/20	1	HOUSING		B24
P32.8137		P32.0218	1	SWIVEL SHAFT		A18
P32.8138		P32.0211	1	CONICAL GEAR WHEEL		D22
P32.8139		P32.0212	1	GEAR WHEEL		D21

[] = Group

* = Wearing parts

Item-No.		in group	Pcs.	Description	Dimension	Field
P32.8140		P32.0219/20	1	RETAINER		A22
P32.8141		P32.0219/20	1	COVERING		B21
P32.8142		P32.0219/20	1	HANDLE LEVER		B21
P32.8153		P32.0214	1	GEAR WHEEL		B24
P32.8157		P32.0218	1	BODY		C7
P32.8158		P32.0221	1	COVER		A4
P32.8159		P32.0222	1	END COVER		C5
P32.8195			1	COVER		C9
[P33.0204]		P32.0219/20	1	GEAR WHEEL		B18
P33.2115		P32.8199/ P32.8201	1	TURNING BUTTON		C20
P33.2127		N51.1111	3	SHRINKABLE HOSE		C22
P33.2145		P32.0219/20	1	DISK		B21
P33.2155		P32.0219/20	1	DOWEL		C22
[P35.0146]			1	PUSHER		C12
P35.3104		P32.0205	3	IDLER GEAR		C13
P35.3201			3	IDLER GEAR		B4
P35.3203	*		1	TENSIONING WHEEL		C4
P35.3214	*		1	CUTTER		C11
P35.3215			1	GUIDE CASE		B11
P35.3220			1	SEESAW LEVER		B11
P35.3221			1	SEESAW LEVER		C12
P35.3223		P35.0146	1	THRUST PIECE		B12

8.2 Type dependent spare parts P329.0001.01 / P329.0002.01

Type 43.2522.01

43.2522.01	P329/16/0.65-1.05			P329.0001.01		18.02.16
Item-No.		in group	Pcs.	Description	Dimension	Field
N44.9160		P32.8105	1	ADHESIVE LABEL		D19
[P32.0219]			1	BASE MODEL		D6+
[P32.0229]		P32.0219	1	CIRCUIT BOARD		B21
[P32.8105]		P32.0219	1	MOTOR HOUSING		B19
P32.8150		P32.0219	1	TOUCH CONTACT-SWITCH		A21
P32.8168			1	STRAP STOP		B1
P32.8177			1	STRAP GUIDE		D4
P32.8198			1	INSERTATION PART		D9
[P32.8199]		P32.0229	1	CIRCUIT BOARD		B20
P35.3216			1	GUIDE PIN		D12
P35.3217			1	GUIDE PIN		D12

Type 43.2532.01

43.2532.01	P329/19/0.65-1.05			P329.0001.01		18.02.16
Item-No.		in group	Pcs.	Description	Dimension	Field
N44.9160		P32.8105	1	ADHESIVE LABEL		D19
[P32.0219]			1	BASE MODEL		D6+
[P32.0229]		P32.0219	1	CIRCUIT BOARD		B21
[P32.8105]		P32.0219	1	MOTOR HOUSING		B19
P32.8150		P32.0219	1	TOUCH CONTACT-SWITCH		A21
P32.8169			1	STRAP STOP		B1
P32.8178			1	STRAP GUIDE		D4
P32.8198			1	INSERTATION PART		D9
[P32.8199]		P32.0229	1	CIRCUIT BOARD		B20
P35.3218			1	GUIDE PIN		D12
P35.3219			1	GUIDE PIN		D12

Type 43.2533.01

43.2533.01	P329/19/1.06-1.35			P329.0001.01		18.02.16
Item-No.		in group	Pcs.	Description	Dimension	Field
N44.9160		P32.8105	1	ADHESIVE LABEL		D19
[P32.0219]			1	BASE MODEL		D6+
[P32.0229]		P32.0219	1	CIRCUIT BOARD		B21
[P32.8105]		P32.0219	1	MOTOR HOUSING		B19
P32.8150		P32.0219	1	TOUCH CONTACT-SWITCH		A21
P32.8169			1	STRAP STOP		B1
P32.8178			1	STRAP GUIDE		D4
[P32.8199]		P32.0229	1	CIRCUIT BOARD		B20
P35.3218			1	GUIDE PIN		D12
P35.3219			1	GUIDE PIN		D12

Type 43.2722.01

43.2722.01	P329/16/0.65-1.05/A			P329.0002.01		18.02.16
Item-No.		in group	Pcs.	Description	Dimension	Field
N44.9170		P32.8196	1	ADHESIVE LABEL		D19
[P32.0220]			1	BASE MODEL		D6+
[P32.0230]		P32.0220	1	CIRCUIT BOARD		B21
P32.8133		P32.0220	1	PUSHER		C23
[P32.8154]		P32.0220	1	TOUCH CONTACT-SWITCH		A21
P32.8168			1	STRAP STOP		B1
P32.8177			1	STRAP GUIDE		D4
[P32.8196]		P32.0220	1	MOTOR HOUSING		B19
P32.8198			1	INSERTATION PART		D9
[P32.8199]		P32.0230	1	CIRCUIT BOARD		B20
P35.3216			1	GUIDE PIN		D12
P35.3217			1	GUIDE PIN		D12

Type 43.2732.01

43.2732.01	P329/19/0.65-1.05/A			P329.0002.01		18.02.16
Item-No.		in group	Pcs.	Description	Dimension	Field
N44.9170		P32.8196	1	ADHESIVE LABEL		D19
[P32.0220]			1	BASE MODEL		D6+
[P32.0230]		P32.0220	1	CIRCUIT BOARD		B21
P32.8133		P32.0220	1	PUSHER		C23
[P32.8154]		P32.0220	1	TOUCH CONTACT-SWITCH		A21
P32.8169			1	STRAP STOP		B1
P32.8178			1	STRAP GUIDE		D4
[P32.8196]		P32.0220	1	MOTOR HOUSING		B19
P32.8198			1	INSERTATION PART		D9
[P32.8201]		P32.0230	1	CIRCUIT BOARD		B20
P35.3218			1	GUIDE PIN		D12
P35.3219			1	GUIDE PIN		D12

Type 43.2733.01

43.2733.01	P329/19/1.06-1.35/A			P329.0002.01		18.02.16
Item-No.		in group	Pcs.	Description	Dimension	Field
N44.9170		P32.8196	1	ADHESIVE LABEL		D19
[P32.0220]			1	BASE MODEL		D6+
[P32.0230]		P32.0220	1	CIRCUIT BOARD		B21
P32.8133		P32.0220	1	PUSHER		C23
[P32.8154]		P32.0220	1	TOUCH CONTACT-SWITCH		A21
P32.8169			1	STRAP STOP		B1
P32.8178			1	STRAP GUIDE		D4
[P32.8196]		P32.0220	1	MOTOR HOUSING		B19
[P32.8201]		P32.0230	1	CIRCUIT BOARD		B20
P35.3218			1	GUIDE PIN		D12
P35.3219			1	GUIDE PIN		D12