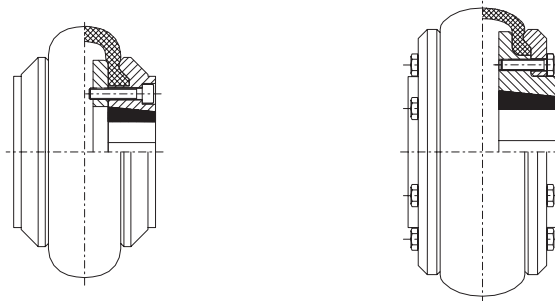


# Operating Instructions

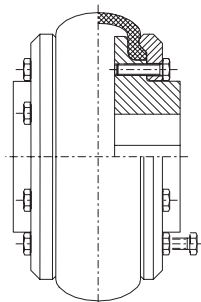
## BA 3320 EN 03.04

Highly elastic **ELPEX-B** Couplings Types  
**EBWT, EBWN** and **EBWZ**

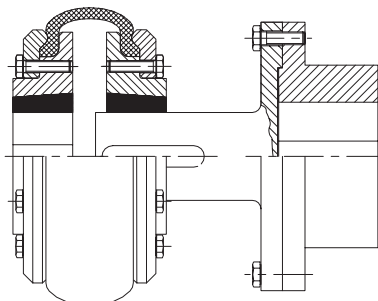
EBWT



EBWN



EBWZ



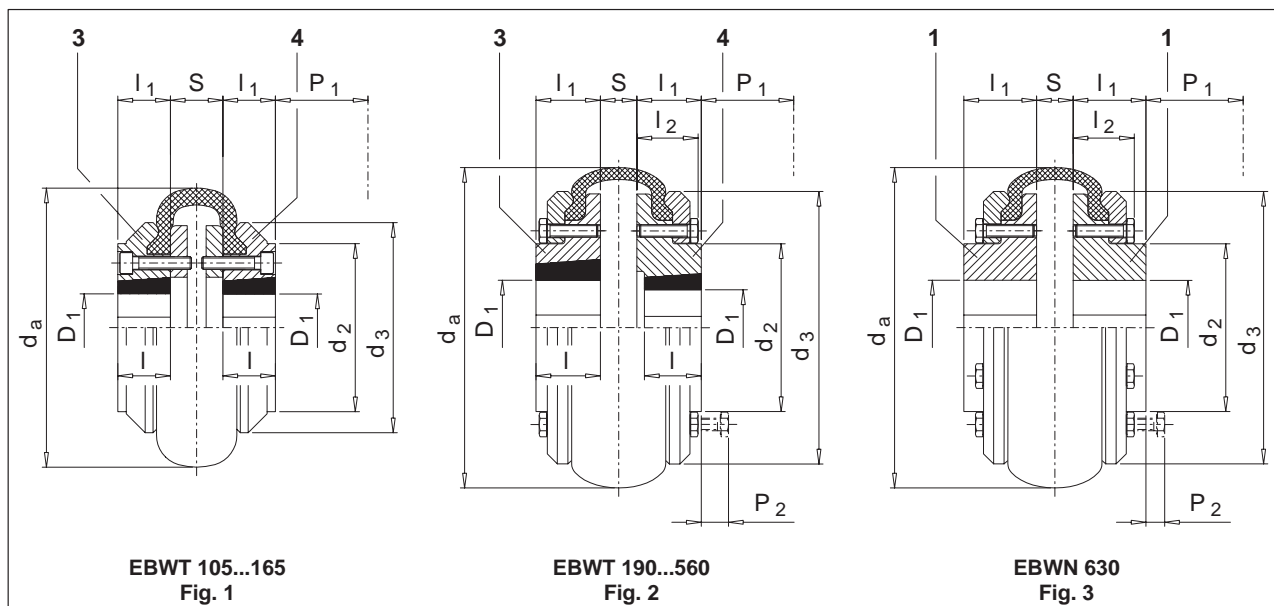
# FLENDER

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## 1. Technical data

### 1.1 Geometric data of types EBWT and EBWN

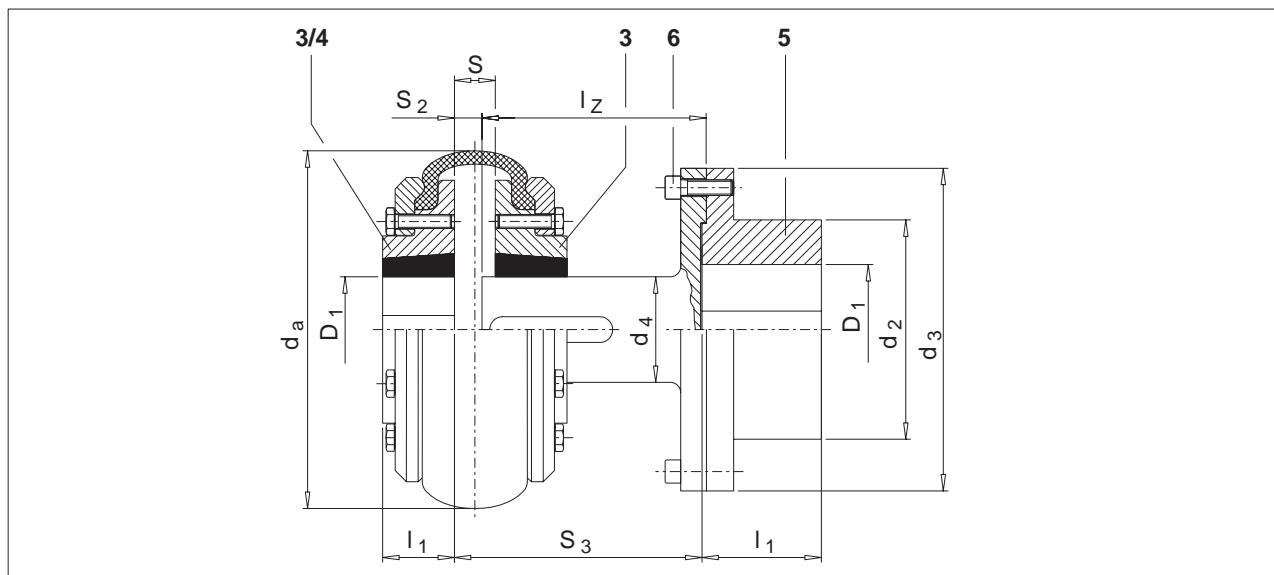


Size	Fig.	Part no. 1)	Bore D <sub>1</sub> mm	Bush no.	d <sub>a</sub> mm	d <sub>2</sub> mm	d <sub>3</sub> mm	l mm	l <sub>1</sub> mm	l <sub>2</sub> mm	S mm	P <sub>1</sub> 2) mm	P <sub>2</sub> 3) mm	Mass moment of inertia 4) kgm <sup>2</sup>	Total weight kg
105	1	3 / 4	10... 25	1008	104	–	82	22	22	–	22	29	–	0.0009	1.8
135	1	3 / 4	11... 32	1210	134	80	100	25	25	–	25	38	–	0.0019	2.4
165	1	3 / 4	14... 42	1610	165	103	125	25	25	–	33	38	–	0.0049	4
190	2	3 4	14... 50 14... 42	2012	187	80	145	32	32	39	23	42	15	0.0083 0.0085	5.4
				1610				25				38			
210	2	3 4	16... 60 14... 50	2517	211	98	168	45	45	42	25	48	6	0.016 0.017	8
				2012				32				42			
235	2	3 / 4	16... 60	2517	235	108	188	45	46	47	27	48	12	0.019	8
255	2	3 4	25... 75 16... 60	3020	254	120	216	51	51	49	27	55	9	0.049 0.050	14
				2517				45				45			
280	2	3 / 4	25... 75	3020	280	134	233	51	52	50	25	55	8	0.075	22
315	2	3 4	35... 90 25... 75	3525	314	140	264	65	66	53	29	67	–	0.11 0.11	23
				3020				51				51			
360	2	3 / 4	35... 90	3525	359	178	311	65	65	57	32	67	5	0.26	38
400	2	3 / 4	40...100	4030	402	197	345	77	77	63	30	80	3	0.44	54
470	2	3 / 4	55...110	4535	470	205	398	89	89	71	46	89	–	0.8	72
510	2	3 / 4	55...110	4535	508	200	429	89	89	79	48	89	5	1.2	88
560	2	3 / 4	70...125	5040	562	222	474	102	102	91	55	92	4	2.0	120
630	3	1	100...190	–	629	265	532	132	132	96	59	–	–	3.5	200

Table 1.1: Dimensions, weights and mass moments of inertia of Types EBWT and EBWN

- 1) Part 3: Screw connection of the TAPER clamping bush from the **shaft end face side**.  
Part 4: Screw connection of the TAPER clamping bush from the **machine housing side**.
- 2) Space required for mounting and demounting TAPER clamping bushes or space required for replacing the elastic ring on size 105 to 165.
- 3) Space required for replacing the elastic rings.
- 4) Weights and mass moments of inertia apply to one coupling half.

## 1.2 Geometric data of type EBWZ



Size	Bore Part no.			Bush no. Part no.		Part no.								S	S <sub>2</sub> min mm	from to		Mass moment of inertia		Total weight 1) kg
	3	4	5	3	4	3			4			5				3	3+5+6	1) kgm <sup>2</sup>		
	D <sub>1</sub> mm			d <sub>a</sub> mm	d <sub>2</sub> mm	d <sub>3</sub> mm	d <sub>4</sub> mm	l <sub>1</sub> mm			l <sub>z</sub> mm	S <sub>3</sub> mm								
105	10...25	10...25	max. 42	1008	1008	104	70	95	25	22	22	45	96	22	6	100	116	0.0009	0.0027	4.2
135	11...32	11...32	max. 55	1210	1210	134	90	125	32	25	25	50	93 <sup>2)</sup> 133	25	9	100 140	116 156	0.0019	0.0085	6.5
165	14...42	14...42	max. 55	1610	1610	165	90	125	32	25	25	50	93 <sup>2)</sup> 133	33	9	100 140	124 164	0.0049	0.012	8.2
190	14...50	14...42	max. 75	2012	1610	187	125	180	48	32	32	80	93.5 133.5 173.5	23	9	100 140 180	114 154 194	0.0083	0.046	18
210	16...60	14...50	max. 75	2517	2012	211	125	180	48	45	32	80	133.5 173.5	25	9	140 180	156 196	0.016	0.053	21
235	16...60	16...60	max. 75	2517	2517	235	125	180	48	46	46	80	133.5 173.5	27	9	140 180	158 198	0.019	0.056	21
255	25...75	16...60	max. 90	3020	2517	254	150	225	60	51	45	100	133.5 173.5	27	9	140 180	158 198	0.049	0.15	36
280	25...75	25...75	max. 90	3020	3020	280	150	225	60	52	52	100	133.5 173.5	25	9	140 180	156 196	0.075	0.17	43
315	35...90	25...75	46...100	3525	3020	314	165	250	80	66	51	110	134.5 174.5	29	9	140 180	160 200	0.11	0.28	52
360	35...90	35...90	46...100	3525	3525	359	165	250	80	65	65	110	134.5 174.5	32	9	140 180	163 203	0.26	0.43	68

Table 1.2: Dimensions, weights and mass moments of inertia of Type EBWZ

1) Weights and mass moments of inertia apply to mean bores including the TAPER clamping bush and ring portion.

2) Special tools required for assembly.

## 1.3 Performance data

Size	Rated torque	Maximum torque	Fatigue torque	Speed	Perm. shaft misalignment			Dynamic torsional stiffness
	$T_{KN}$ Nm	$T_{Kmax}$ Nm	$T_{KW}$ Nm	$n_{max}$ 1/min	$\Delta K_a$ mm	$\Delta K_r$ mm	$\Delta Kw = 4^\circ$ $S_{max} - S_{min}$ mm	$C_{t\ dyn}$ Nm / rad
<b>105</b>	24	64	11	4500	1.3	1.1	5.7	285
<b>135</b>	66	160	26	4500	1.7	1.3	7.0	745
<b>165</b>	125	320	53	4000	2.0	1.6	8.7	1500
<b>190</b>	250	490	81	3600	2.3	1.9	10	2350
<b>210</b>	380	760	125	3100	2.6	2.1	12	3600
<b>235</b>	500	1100	185	3000	3.0	2.4	13	5200
<b>255</b>	680	1500	250	2600	3.3	2.6	15	7200
<b>280</b>	880	2150	355	2300	3.7	2.9	16	10000
<b>315</b>	1350	3550	590	2050	4.0	3.2	18	17000
<b>360</b>	2350	5650	940	1800	4.6	3.7	22	28000
<b>400</b>	3800	9350	1560	1600	5.3	4.2	24	44500
<b>470</b>	6300	16500	2750	1500	6.0	4.8	28	78500
<b>510</b>	9300	23500	3900	1300	6.6	5.3	30	110000
<b>560</b>	11500	33000	5550	1100	7.3	5.8	33	160000
<b>630</b>	14500	42500	7100	1000	8.2	6.6	37	200000

relative damping coefficient  $\Psi = 0.9$

The indicated torques apply to:

- daily operating cycle of up to 24 h
- during the starting operation or operation torque surges of up to the maximum torque are permitted up to 120 times an hour.
- operation within the specified alignment
- operation in the temperature range - 50 °C to + 50 °C (ambient temperature or temperature in the immediate vicinity of the coupling).

**Caution!**

**In the event of a change in operating conditions (e.g. output, speed, starting frequency, changes to the prime mover and driven machine and to the ambient temperature) the design must always be checked.**

## 2. General notes

### 2.1 Introduction

These Operating Instructions (BA) are an integral part of the coupling delivery and must be kept in its vicinity for reference at all times.

**Caution!**

**All persons involved in the installation, operation, maintenance and repair of the coupling must have read and understood these Operating Instructions and must comply with them at all times. We accept no responsibility for damage or disruption caused by disregard of these Instructions.**

The "**Coupling**" described in these Operating Instructions (BA) has been developed for stationary use in general engineering applications. The coupling serves to transmit power and torque between two shafts or flanges connected by this coupling.

The coupling is designed only for the application described in section 1, "Technical data". Other operating conditions must be contractually agreed.

The coupling described in these Instructions reflects the state of technical development at the time these Instructions went to print.

In the interest of technical progress we reserve the right to make changes to the individual assemblies and accessories which we regard as necessary to preserve their essential characteristics and improve their efficiency and safety.

### 2.2 Copyright

The copyright to these Operating Instructions (BA) is held by **FLENDER AG**.

These Operating Instructions (BA) must not be wholly or partly reproduced for competitive purposes, used in any unauthorised way or made available to third parties without our agreement.

Technical enquiries should be addressed to the following works

FLENDER AG  
D 46393 Bocholt

Telefon: 02871/92-2868  
Telefax: 02871/92-2579

or to one of our customer-service addresses. A list of our customer-service addresses is given in section 11, "Spare parts, customer-service addresses".

## 3. Safety notes

### 3.1 Proper use

- The coupling has been manufactured in accordance with the state of the art and is delivered in a condition for safe and reliable use. Any changes on the part of the user which may affect safety and reliability are prohibited. This applies equally to safety features designed to prevent accidental contact.
- The coupling must be used and operated strictly in accordance with the conditions laid down in the contract governing performance and supply.

### 3.2 Obligations of the user

- The operator must ensure that all persons involved in installation, operation, maintenance and repair have read and understood these Operating Instructions (BA) and comply with them at all times in order to:

- avoid injury or damage,
- ensure the safety and reliability of the coupling,

and

- avoid disruptions and environmental damage through incorrect use.
- During transport, assembly, installation, dismantling, operation and maintenance of the unit, the relevant safety and environmental regulations must be complied with at all times.
- The coupling must be operated, maintained or repaired only by authorised, duly trained and qualified personnel.
- All work must be carried out with great care and with due regard to safety.
- All work on the gear unit must be carried out only when it is at a standstill. The drive unit must be secured against being switched on accidentally (e.g. by locking the key switch or removing the fuses from the power supply). A notice should be attached to the ON switch stating clearly that work is in progress.
- The coupling must be fitted with suitable safeguards to prevent accidental contact. The operation of the coupling must not be impaired by the safeguard.
- The drive unit must be shut down as soon as changes to the coupling are detected during operation.
- If the coupling is intended for installation in plant or equipment, the manufacturer of such plant or equipment must ensure that the contents of the present Operating Instructions are incorporated in his own instructions.
- All spare parts must be obtained from FLENDER.

### 3.3 Warnings and symbols used in these Instructions



This symbol indicates safety measures which must be observed to avoid **personal injury**.

**Caution!**

This symbol indicates safety measures which must be observed to avoid **damaging the coupling**.

**Note:**

This symbol indicates general **operating instructions** which are of particular importance.



## 4. Handling and storage

### 4.1 Scope of supply

The products supplied are listed in the despatch papers. Check immediately on receipt to ensure that all the products listed have actually been delivered. Parts damaged during transport or missing parts must be reported in writing immediately.

### 4.2 Handling

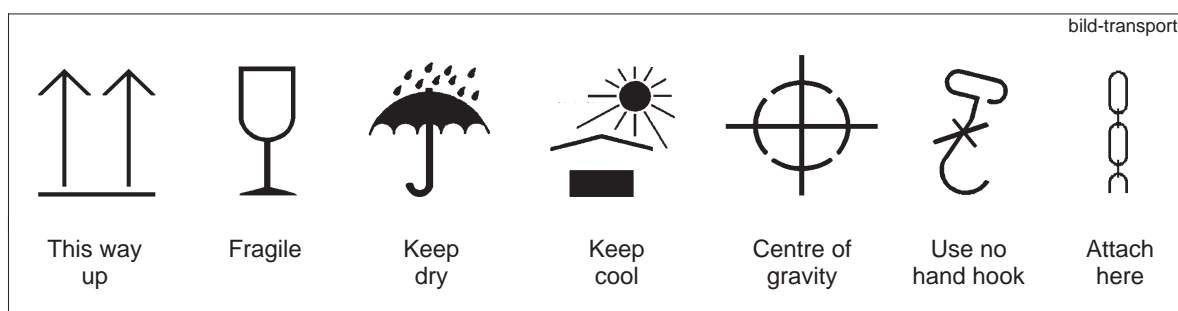


**When handling FLENDER products, use only lifting and handling equipment of sufficient load-bearing capacity!**

**Note:** The coupling must be transported using suitable transport equipment only.

Different forms of packaging may be used depending on the size of the coupling and method of transport. Unless otherwise agreed, the packaging complies with the **HPE Packaging Guidelines**.

The symbols marked on the packaging must be observed at all times. These have the following meanings:



### 4.3 Storage of the coupling

#### 4.3.1 Storage of the coupling parts

The coupling is delivered in a preserved condition and can be stored in a covered, dry place for up to 3 months. If the coupling is to be stored for a protracted period, it should be treated with a long-term preservative agent (FLENDER must be consulted).

**Caution!**

**Before cleaning the coupling parts and applying the long-term preservative agent, the elastic ring must be covered or removed. The elastic ring must not come into contact with oil or cleaning agent.**

#### 4.3.2 Storage of the elastic rings

##### 4.3.2.1 General

Correctly stored elastic rings retain their properties unchanged for up to five years. Unfavourable storage conditions and improper treatment will negatively affect the physical properties of the elastic ring. Such negative effects may be caused by e.g. the action of ozone, extreme temperatures, light, moisture, or solvents.

##### 4.3.2.2 Storage area

The storage area must be dry and free from dust. The elastic rings must not be stored with chemicals, solvents, motor fuels, acids, etc. Furthermore, they should be protected against light, in particular direct sunlight and bright artificial light with a high ultraviolet content.

**Caution!**

**The storage areas must not contain any ozone-generating equipment, e.g. fluorescent light sources, mercury vapour lamps, high-voltage electrical equipment. Damp storage areas are unsuitable. Ensure that no condensation occurs. The most favourable atmospheric humidity is below 65 %.**

## 5. Technical description

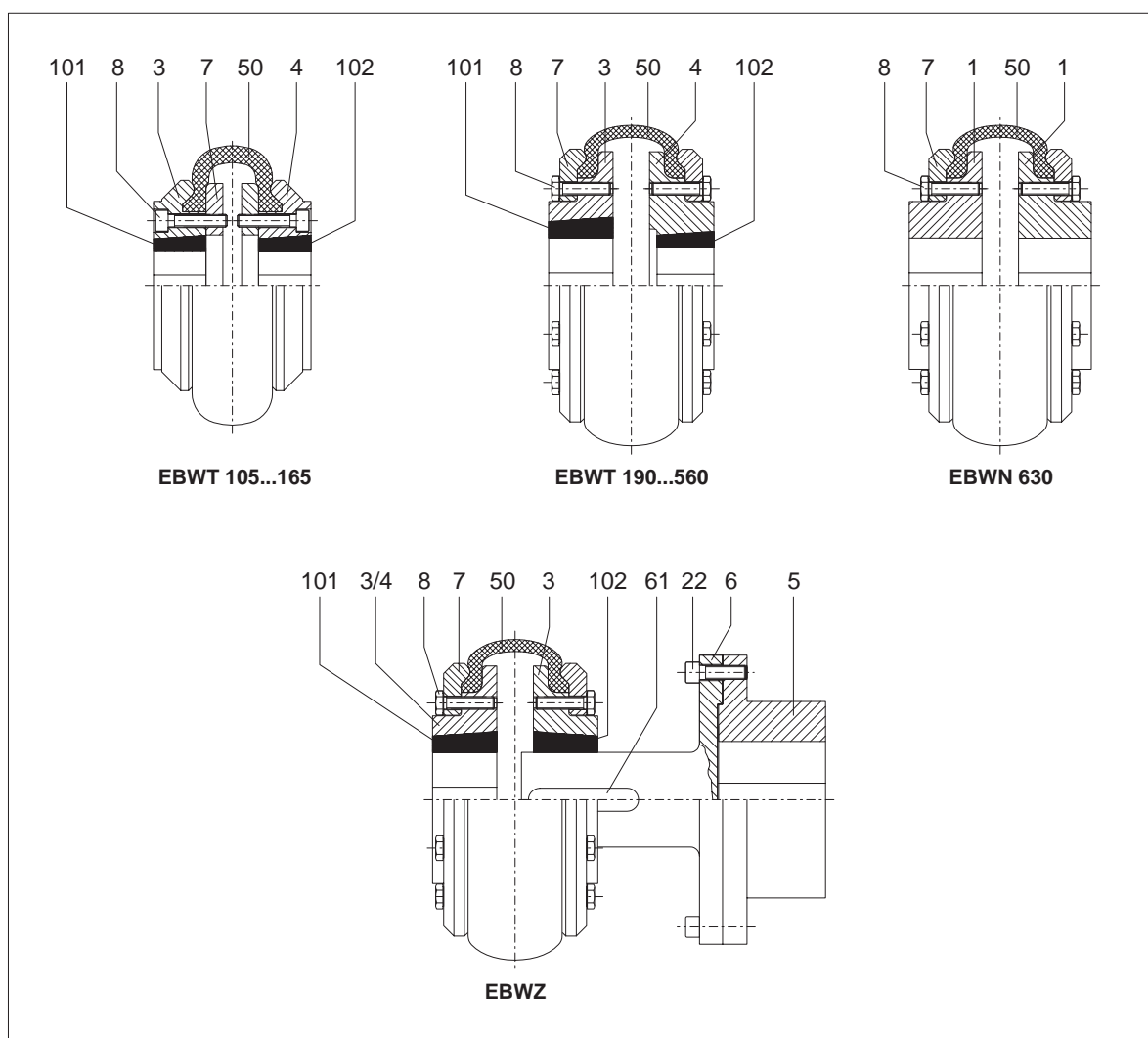
### 5.1 General description

ELPEX-B couplings are highly-elastic elastic couplings. They are suitable for connecting machines and can compensate for relatively important shaft misalignment of the coupled machines. ELPEX-B couplings dampen torsional vibration, reduce impacts and insulate against structure-borne sound.

The elastic ring is slit at one place on its circumference so that it can be replaced without having to shift the coupled machines. The elastic ring is clamped non-positively by the clamping ring and coupling part (1) or (3) or (4) respectively. The coupling is free of circumferential backlash and therefore also especially suitable for reversing operation.

On type EBWT coupling part (3) or (4) is connected via TAPER clamping bushes to the shafts to be coupled. On the design with coupling part (3) the TAPER clamping bush is bolted on from the shaft end face side. On coupling part (4) the TAPER clamping bush is fitted from the machine housing side.

Type EBWZ is designed with an adapter. Space can thus be created for demounting system components without shifting the coupled machines.



## 6. Mounting

At the customer's request FLENDER also delivers unbored or prebored coupling parts.

The necessary refinishing must be carried out in strict compliance with the following specifications and with particular care!

**Caution!**

**Responsibility for carrying out the refinishing is borne by the orderer. FLENDER can accept no guarantee claims arising from unsatisfactory refinishing!**

6.1 Instructions for machining the finished bore, parallel keyway, axial retaining means, set screws and balancing

6.1.1 Finished bore

- Remove clamp ring (7) and screws.
- Depreserve and, if necessary, clean coupling parts.



**Note manufacturer's instructions for handling solvent.**

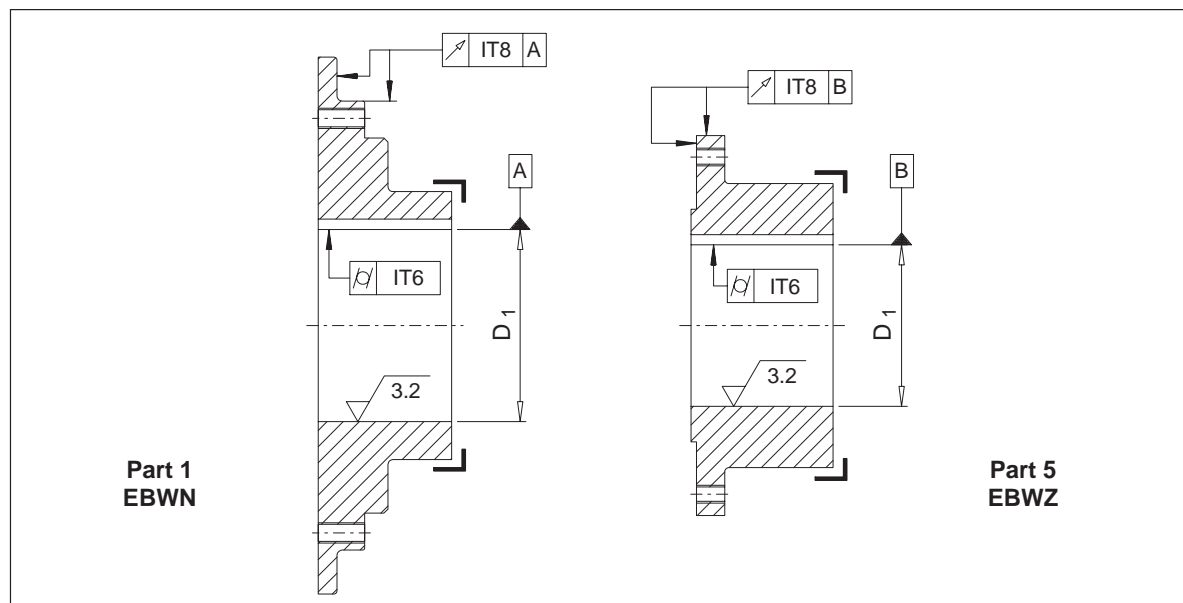
When machining the finished bore the parts must be carefully aligned. For the permissible radial and axial runout errors and the permissible cylindricity tolerances, refer to DIN ISO 286. The parts must be mounted on the marked faces ( ).

**Caution!**

**The maximum permissible bore diameters (see section 1.) are designed for drive-type fastenings without taper action to DIN 6885/1 and must not under any circumstances be exceeded. The finish-machined bores must be 100 % checked with suitable measuring equipment.**

If other shaft - hub connections (e.g. taper or stepped bore, etc.) are to be used instead of the flanged sleeve connections provided for, FLENDER must be consulted.

Flanged sleeve connections with taper action are not permissible.



For drive by means of parallel keys the following fit pairs are prescribed for the bores:

Selection of fit	Selection of fit D <sub>1</sub>		Shaft tolerances	Bore tolerances
	over mm	to mm		
Shaft tolerances to FLENDER standard		25	k6	H7
	25	100	m6	
	100		n6	
Shaft tolerances to DIN 748/1		50	k6	H7
	50		m6	
System standard shaft		50	h6	K7
	50			M7
		all	h8	N7

Table 6.1.1: Fit pairs

### Caution!

The assigned fits must be adhered to in order, on the one hand, to keep the play in the shaft-hub connection as low as possible, depending on utilisation of the tolerance zones, or, on the other, to keep the hub tension arising from the oversize within the permissible load limit. Failure to adhere to the fits may impair the shaft-hub connection. If the tolerance values of the shafts deviate from those in table 6.1.1 above, FLENDER must be consulted.



Failure to observe these instructions may result in breakage of the coupling. Danger from flying fragments!

### 6.1.2 Parallel keyway

The parallel keyways must be designed in accordance with DIN 6885/1. If the keyway geometry deviates, FLENDER must be consulted. Taper keys or nose keys (gib headed keys) are not permissible.

The parallel keyways must be designed to suit the available parallel keys. For parallel keyways the tolerance zone of the hub keyway width **ISO JS9** must be adhered to.

**For more difficult operating conditions** of the kind arising e.g. with reversing operation or operation with impulses the hub keyway tolerance zone **ISO P9** is specified.

### 6.1.3 Axial fastening

A set screw or end plate must be provided to secure the coupling parts axially. If end plates are used, FLENDER must be consulted with regard to machining the recesses in the coupling parts.

If the coupling part mounted on the shaft does not lie up against the shaft shoulder, we recommend using grooved spacer rings.

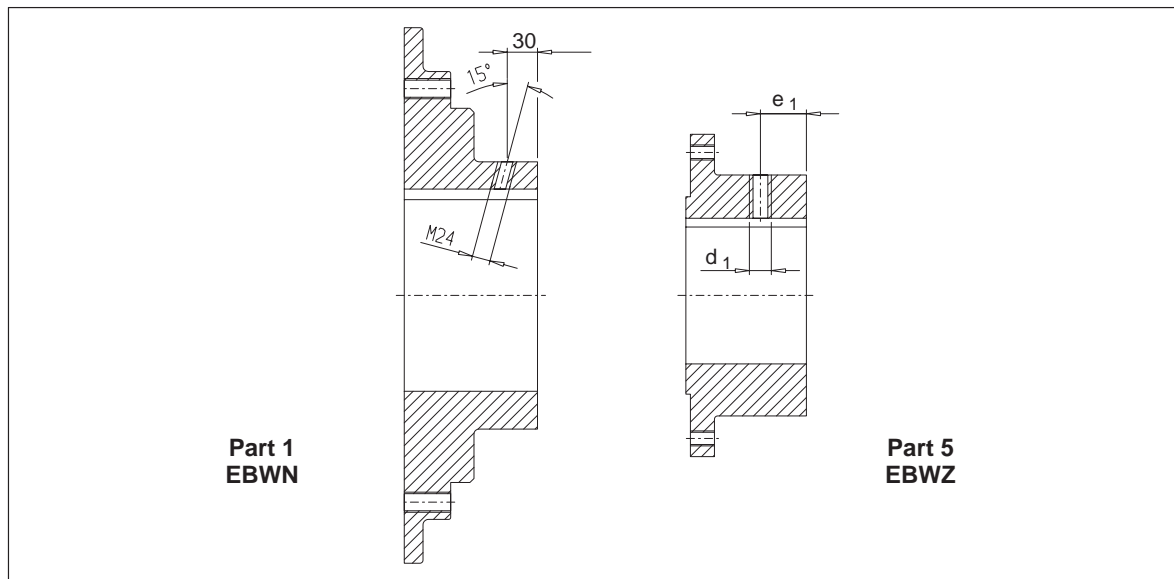
## 6.1.4 Set screws

Hexagon socket set screws with cup points to DIN 916 must be used for set screws.

The following guidelines must be observed!



**The length of the set screw must be selected so that it fills the threaded hole, but does not project from the hub ( $L_{\min} = d_1 \times 1.2$ ).**



Size	105	135	165	190	210	235	255	280	315	360	630
$d_1$	M6	M8	M8	M12	M12	M12	M12	M12	M16	M16	M24
$e_1$	20	25	25	40	40	40	50	50	55	55	30
Tightening torque of the set screw [Nm]	4	8	8	25	25	25	25	25	70	70	230

Table 6.1.4: Set screw assignment and tightening torques of the set screws

### Caution!

**The set screws must always be positioned on the keyway.**

## 6.1.5 Balancing

Prebored couplings or prebored coupling parts are delivered unbalanced. It is recommended that these parts are balanced to suit the application after finish-boring (see DIN ISO 1940 and DIN 740/2), but to min. balancing quality G16.

Balancing is normally done by drilling material away.

### Caution!

**The balancing holes must not be made in the elastic ring clamping area.**

Finish-bored couplings or coupling parts are half-wedge-balanced according to DIN ISO 8821. The balancing quality conforms to G16 at speed  $n = 1500$  1/min and maximum speed to DIN ISO 1940. Different balancing settings must be expressly requested by the customer.

## 6.2 General information on mounting

During mounting, the "Safety Instructions" in Section 3 must be observed.

Mounting work must be done with great care by trained and qualified personnel.

As early as during the planning phase it must be ensured that sufficient space is available for installation and subsequent care and maintenance work.

Adequate lifting equipment must be available before beginning the mounting work.

## 6.3 Mounting and demounting the TAPER clamping bush

### 6.3.1 Mounting the TAPER clamping bush

Before mounting begins, the shaft ends and the outer and inner taper of the TAPER clamping bush must be carefully cleaned and degreased. When cleaning the metal parts the elastic ring must not come into contact with the cleaning agent.



**Note manufacturer's instructions for handling solvent.**

Up to size 3030 = 2 and from size 3535 = 3 up the TAPER clamping bushes have axially parallel, cylindrical and smooth blind holes in the large end face, only half of which are in the material of the bush. The other half, which is in the hub, have threads.

Insert coupling part (3) or (4) and the TAPER clamping bush one inside the other, align holes and slightly tighten bolts.

Place coupling part (3) or (4) with the TAPER clamping bush on the cleaned shaft and then align, noting dimension  $S_1$ , and tighten the clamping bush bolts alternately (for tightening torques, see item 6.5.4.2).

During the screwing-on operation the hub is drawn onto the tapered clamping bush and the bush thus pressed onto the shaft.

If the TAPER clamping bushes are to be used without parallel keys, the sliding torques and tightening torques (see item 6.5.4.2) must be observed. All TAPER clamping bushes are designed with a keyway for parallel keys with parallel sides (no wedges).

Fill the unused holes in the TAPER clamping bushes with grease to prevent the ingress of dirt.

### 6.3.2 Demounting the TAPER clamping bush

The TAPER clamping bush is released by removing the bolts. One of the bolts is then screwed into the bush thread as a forcing-off screw and tightened.

From TAPER clamping bush no. 3535 up two forcing-off screws are provided.

The coupling part thus released can be pulled off by hand with the TAPER clamping bush without tools.

## 6.4 Alignment

### 6.4.1 General alignment

Misalignments of the coupling parts in relation to each other can be caused by inaccurate alignment during mounting, but also by actual operation of the equipment (expansion due to heat, shaft deflection, too elastic machine frames, etc.).

The couplings pick up positional errors in the shaft ends to be connected up to the data shown in table 1.1. During alignment radial and angular misalignment should be kept as small as possible to prolong the service life of the elastic ring.

After pulling on the coupling parts (1, 3, 4 or 5) and before fitting the elastic ring the coupled machines must be aligned.

Alignment has to be done in two axial planes arranged perpendicular to each other. This can be done by means of a ruler (radial misalignment) and calliper gauge (angular misalignment).

## 6.4.2 Permissible shaft misalignment values

### Caution!

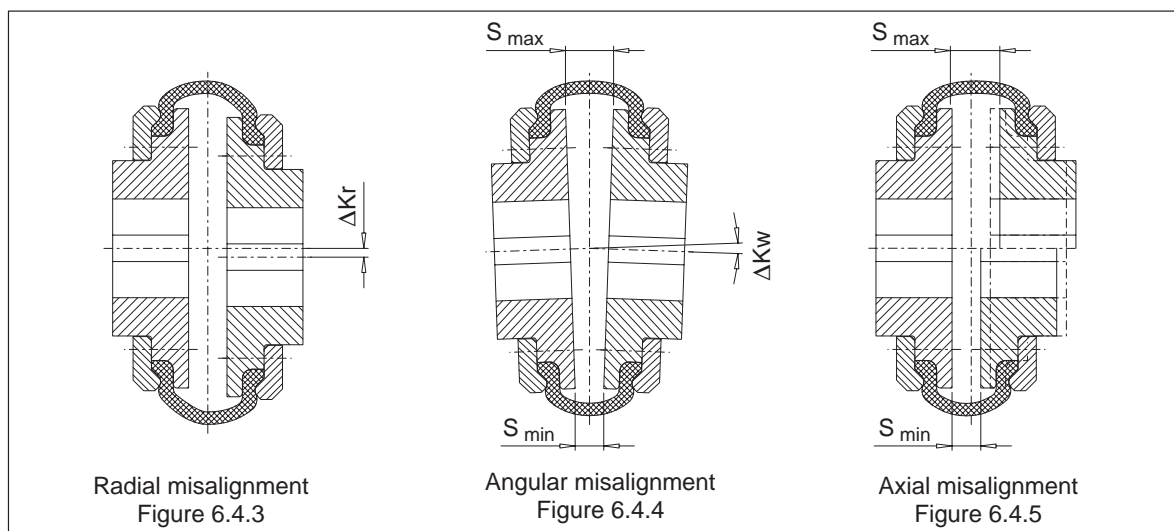
The maximum permissible misalignments specified in item 1.3 must under no circumstances be exceeded during operation.

### Caution!

The specified permissible axial, radial and angular misalignments must not occur at the same time.

If axial, radial and angular misalignments occur at the same time, reduced permissible misalignment values must be adhered to.

With an axial misalignment of  $\Delta K_a / 2$  and radial misalignment of  $\Delta K_r / 2$  an angular misalignment of  $\Delta K_w \leq 2^\circ$  may be permitted.



### 6.4.3 Radial misalignment

For maximum values, see item 1.3.

### 6.4.4 Angular misalignment

To simplify matters, the angular misalignment  $\Delta K_w$  is obtained as the difference between the dimensions  $S_{max}$  and  $S_{min}$ . For maximum values, see item 1.3.

### 6.4.5 Axial misalignment

The permitted axial misalignment  $\Delta K_a$  is shown in item 1.3. For the nominal gap dimension  $S$ , see the tables in item 1.1 or 1.2.

The measured gap dimension must be between the values  $S_{max}$  and  $S_{min}$ , taking into consideration the above mentioned restrictions. Here applies the formula:

$$S_{max} = S + \Delta K_a$$

$$S_{min} = S - \Delta K_a$$

## 6.5 Mounting and demounting the elastic ring

### 6.5.1 General

The elastic ring is slit at the circumference to enable demounting and fitting without shifting the coupled machines.

Before the elastic ring is fitted, it must be ensured that the clamping points on parts (1, 3, 4, 5 and 7) are free of all impurities.

### Caution!

The elastic ring must not come into contact with cleaning agent.

## 6.5.2 Mounting the elastic ring

The elastic ring must be pulled apart at the slit and slipped over coupling parts (1) or (3 or 4). Place the elastic ring in the clamping place between part (7) and part (1) or part (3, 4). After the elastic ring has been inserted, there should be a gap at the parting point on the ring.

Screw the bolts, part (8), in by hand as far as possible, then tighten them one after the other (not diagonally) with the wrench.

**Caution!**

**Note tightening torques.  
Do not further tighten the individual bolts by more than one turn.**

## 6.5.3 Demounting the elastic ring

Undo bolts, part (8), one after the other (not diagonally).

## 6.5.4 Screw tightening torques

### 6.5.4.1 TAPER clamping bush

TAPER clamping bush No.	Bush bore	Sliding torque 1) $T_R$ Nm	Tightening torque $T_A$ Nm	Wrench width $S_W$ DIN 911 $S_W$ mm
	$D_1$ mm			
1008	12	29	5.6	3
	19	51		
	24	66		
1210	16	82	20	5
	24	142		
	32	210		
1610	19	98	20	5
	24	135		
	42	265		
2012	24	165	31	6
	42	340		
	50	420		
2517	24	220	48	6
	48	510		
	60	670		
3020	38	520	90	8
	55	890		
	75	1300		
3525	42	1000	113	10
	75	2150		
	90	2600		
4030	48	1700	170	12
	75	3150		
	100	4400		
4535	55	2500	192	14
	75	3900		
	110	6300		
5040	75	3950	271	14
	100	5650		
	125	7370		

1) The specified sliding torques  $T_R$  apply to the use of TAPER clamping bushes without a parallel key, taking into consideration the specified tightening torques  $T_A$ . These sliding torques apply to the service factor  $f_1 = 1$ . Sliding torques for holes which are not specified in the table can be obtained by interpolation.

The precondition for achieving the specified sliding torques is always a clean, greasefree surface of the parts to be fitted one inside the other and thorough greasing of the tightening bolts.

A parallel key is necessary, if the operating torque of the coupling is greater than the sliding torque of the bush.



## 6.5.4.2 Screw connection (8) and screw connection (22)

Size	Tightening torques $T_A$ and wrench widths $S_w$ for			Tightening torques $T_A$ and wrench widths $S_w$ for	
	Part no. 8			Part no. 22	
	$T_A$ Nm	DIN 912 $S_w$ mm	DIN 931 / 933 $S_w$ mm	$T_A$ Nm	DIN 912 $S_w$ mm
105	15	5		13	5
135	15	5		17.5	6
165	15	5		17.5	6
190	24		13	44	8
210	24		13	44	8
235	40		17	44	8
255	40		17	89	10
280	40		17	89	10
315	50		19	145	14
360	55		19	145	14
400	80		24		
470	105		24		
510	120		24		
560	165		30		
630	165		30		

## 7. Start-up

### 7.1 Procedure before start-up

Before start-up, check all the screw connections for the prescribed tightening torques and ensure that the coupling is correctly aligned (see Section 6). The elastic ring must be checked to ensure correct clamping.

**Caution!** Then fit the coupling guard to prevent unintentional contact.

## 8. Operation

### 8.1 General operating data

During operation of the coupling watch for:

- changes in running noise
- sudden vibrations

**Caution!** If any irregularities are noticed during operation, switch the drive assembly off at once. The cause of the fault must be ascertained. If the cause cannot be identified or the unit repaired with the facilities available, you are advised to contact one of our customer-service offices for specialist assistance (see section 11).

## 9. Faults, causes and remedy

### 9.1 General

The coupling must run with little noise and without vibration in all operating phases. Irregular behaviour must be treated as a fault requiring immediate remedy.



**Before carrying out maintenance work, repairs or other work the operator must ensure that the entire drive train remains stationary. In particular the drive motors must be prevented from being started up unintentionally. We also refer to the relevant accident prevention regulations at the place of installation.**

## 10. Maintenance and repair

### 10.1 General

Inspections are limited to a visual assessment of the condition of the coupling. As far as can be determined, screws should be checked for tightness and damage caused by force. In all cases inspection of the coupling should be carried out simultaneously with inspection of the whole system.

### 10.2 Replacement of wearing parts

Only original **ELPEX-B** elastic rings must be used for replacement in order to guarantee troublefree torque transmission and faultfree operation.

Small cracks or spalling may occur on the elastic ring after long periods of operation. These signs of ageing must be watched, although they do not mean that the elastic ring needs to be replaced immediately.

## 11. Spare parts, customer-service addresses

By stocking the most important spare and wearing parts on site you can ensure that the coupling is ready for use at any time.

When ordering spare parts, always state the following:

- Part no. (see section 5.)
- Description / size
- Quantity

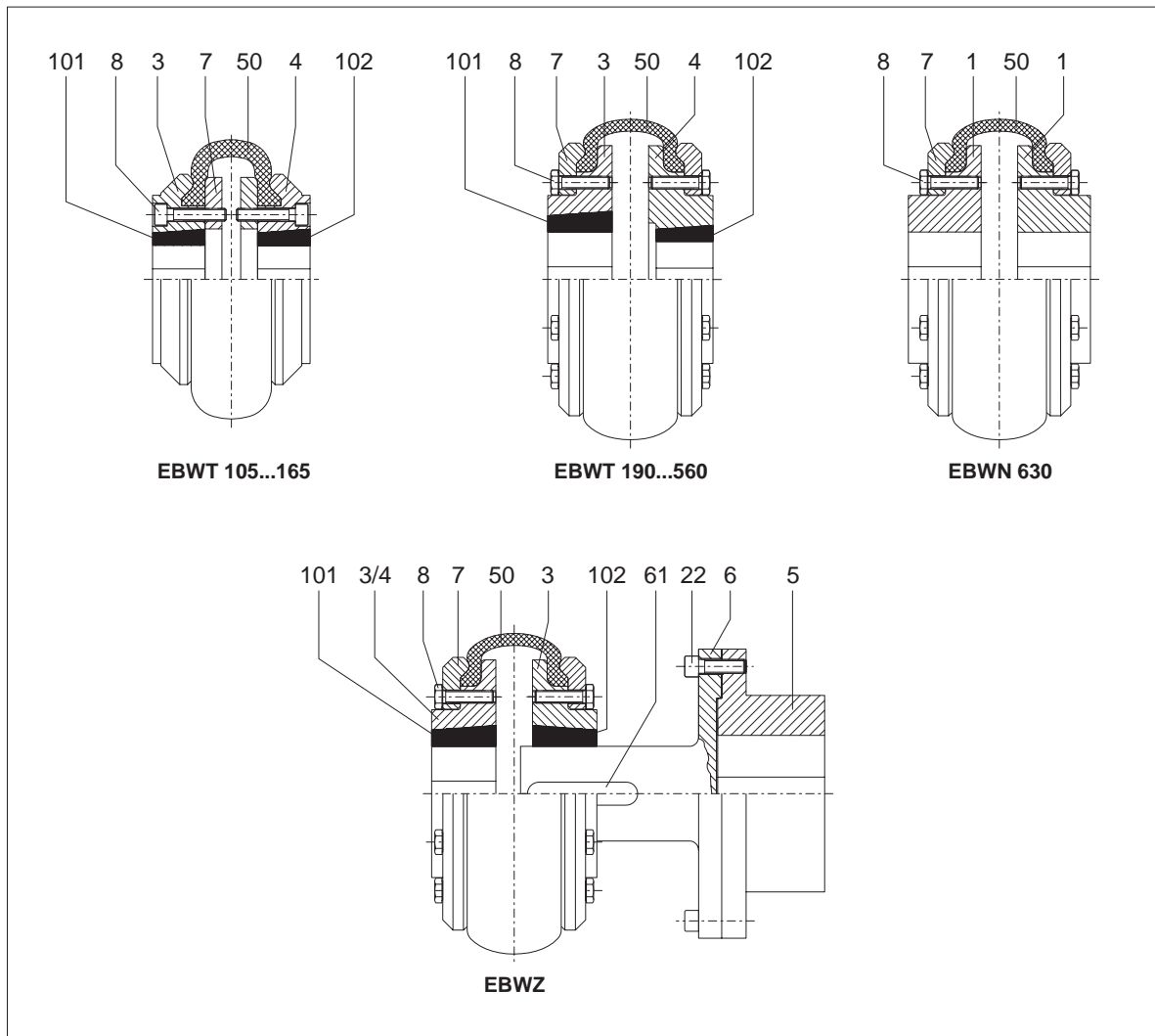
We guarantee only the original spare parts supplied by us.

### **Caution!**

**Please note that spare parts and accessories not supplied by us have not been tested or approved by us. The installation or use of such products may therefore impair essential characteristics of the coupling under certain circumstances and so pose an active or passive hazard. FLENDER will assume no liability or guarantee for damage caused by spare parts and accessories not supplied by FLENDER.**

Please note that certain components often have special production and supply specifications and that we supply you with spare parts which comply fully with the current state of technical development as well as current legislation.

## 11.1 Spare parts list



Spare parts			
Part no.	Description	Part no.	Description
1	Part 1	8	Screws
3	Part 3	22	Screws
4	Part 4	50	Elastic ring
5	Part 5	61	Parallel key
6	Adapter	101	TAPER clamping bush
7	Clamp ring	102	TAPER clamping bush

Table 11.1: Spare parts list, Types EBWT, EBWN, EBWZ

## 11.2 Spare-part and customer service addresses

When ordering spare parts or requesting the services of our specialist engineers, please apply first to FLENDER AG.

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#### **A. FRIEDR. FLENDER AG**

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## 12. Declaration by the manufacturer

### Declaration by the manufacturer

in accordance with EC Engineering Guideline 98/37/EC, Appendix II B

We hereby declare that the

### Highly elastic **ELPEX-B** Couplings Types **EBWT, EBWN and EBWZ**

described in these Operating Instructions are intended for incorporation in a machine, and that it is prohibited to put them into service before verifying that the machine into which they are incorporated complies with the EC Guidelines (original edition 98/37/EC including any subsequent amendments thereto).

This Manufacturer's Declaration takes into account all the unified standards (inasmuch as they apply to our products) published by the European Commission in the Official Journal of the European Community.



Bocholt, 2004-03-16

\_\_\_\_\_  
Signature (person responsible for products)