

Perfect protection for

*Extruders
Twin Screw Mixers*



EAS[®]-XT

The Extruder torque limiter

- *high disengaging accuracy*
- *easy manual re-engagement*
- *compensation of shaft misalignment*
- *long service life*

www.mayr.de

P.475.01.GB

mayr[®]
power-
transmission

Manufacturer's declaration

EAS[®]-clutches are not machines within the scope of the Machinery directive 98/37/EG, but components for installation into machines. An initial start up is prohibited until it has been noticed that the machinery or the equipment into which this product has been incorporated correspond to the EG-guide lines.



Safety regulations

Danger!

- If the EAS[®]-clutches have been modified or reconverted.
- If the relevant standards of the safety or installation conditions are not observed.

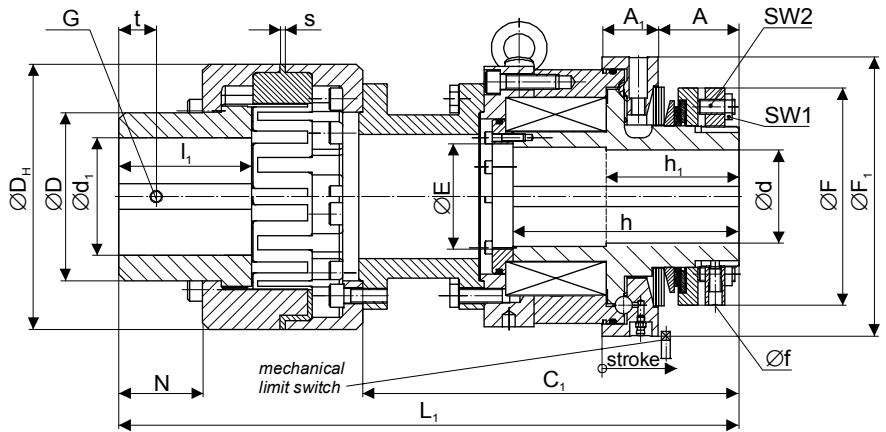
Necessary protective measures to be undertaken by the user

- Cover all moving parts to prevent personnel injury as squeezing and seizing.

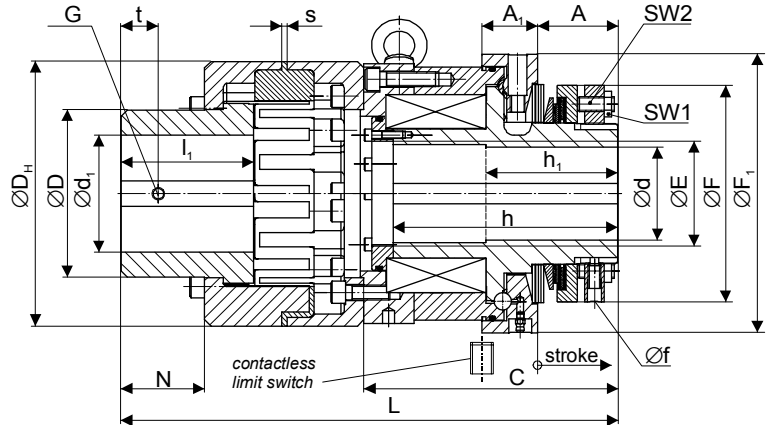
Only qualified and well-trained specialists should work on the units to avoid any personal injury or damage to machinery.

With these safety notes no claim on completeness is raised!

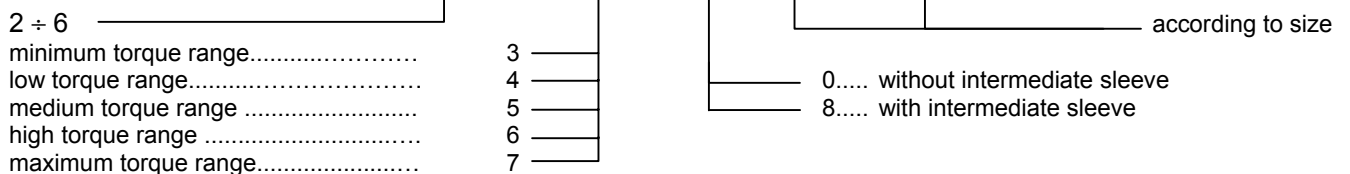
Type 475. – 24.8
keyway on both sides
(EAS[®]-side cone bushing on request)



Type 475. – 24.0
keyway on both sides
(EAS[®]-side cone bushing on request)



To be included when ordering, please state:	size	type	* bore Ø d ^{H7/G7}	* bore Ø d ₁ ^{H7/G7}	with limit switch	with cover EAS [®] -side
Order number:		475. _ 24. _			see page 5	see page 5



Example: order number 4/475.524.0 / 60 H7 / 60 H7 / plus limit switch 055.002.5/ plus cover

* standard bore tolerances are H7 or G7 fits, other fits on request.

Technical data and dimensions

Size	Limiting torques for overload [Nm]					Torque of the flex. coupling	
	Type 475.324. _ cup spring layer single	Type 475.424. _ cup spring layer double	Type 475.524. _ cup spring layer triple	Type 475.624. _ cup spring layer quadruple	Type 475.724. _ cup spring layer sextuple	T _{K nom} [Nm]	T _{K max} [Nm]
2							
3	60 – 120	120 – 240	180 – 360	240 – 480	360 – 720	1050	2000
4	125 – 250	250 – 500	375 – 750	500 – 1000	750 – 1500	1500	3100
5	240 – 600	480 – 1200	720 – 1800	960 – 2400	1440 – 3600	3700	7500
6	600 – 1250	1200 – 2500	1800 – 3750	2400 – 5000	3600 – 7500	9900	14500

Size	Mass moments of inertia [kgm ²]			Mass [kg]		Shaft misalignments flexible coupling		
	Clutch side EAS [®] -XT Type 475. _ 24. _	Flex. coupling Type 475. _ 24.0	Flex. coupling Type 475. _ 24.8	Type 475. _ 24		Axial [mm]	Radial [mm]	Angle [°]
				.0	.8			
2								
3	0,017	0,12	0,141	34,5	40,0	+/- 1,5	0,7	0,23
4	0,11	0,26	0,30	66,0	74,0	+/- 2,0	0,7	0,21
5	0,20	0,63	0,73	104,0	117,0	+/- 2,5	0,7	0,17
6	0,62	1,77	1,98	194,0	214,0	+/- 2,5	0,8	0,17

Size	Maximum speed [rpm]	Stroke of the thrust washer [mm]	1) Bores	
			EAS [®] -XT d [mm]	Flexible coupling d ₁ [mm] 2)
2				
3	3000	2,4	32 – 50	32 – 85
4	2800	3,8	40 – 80	45 – 95
5	2500	4,5	45 – 95	65 – 120
6	2000	5,5	70 – 125	75 – 150

Size	A	A ₁	C	C ₁	D	D _H	E	F	F ₁	f	G ³⁾	h
2												
3	41,8	45	148,0	228,0	121,5	194	52	120	140	8	M6/10/12	132
4	65,0	45	205,5	303,5	135,5	214	85	175	225	11	M10/12	182
5	67,5	50	210,0	315,0	164,0	265	103	200	250	10	M12	182
6	117	66	292,0	407,0	208,0	330	130	230	310	12	M16	224

Size	Length of fit h ₁	L	L ₁	l ₁	N	S	SW1	SW2	t
2									
3	85	325,5	405,5	97	60,0	3,5	13	4	30
4	107	402,0	500,0	107	67,5	4	18	6	35
5	118	455,5	560,5	137	88,0	5,5	18	6	45
6	184	574,5	689,5	156	101,5	8	24	8	50

1) standard bore tolerances are H7 or G7 fits, other fits on request.

2) larger bores sizes 5 and 6, see additional dimension sheet (page 4)

3) dependent on bore diameter d₁

**Additional dimension sheet for the attachment of a larger flexible coupling.
Optional only for the sizes 5 and 6.**

Size	Limiting torques for overload [Nm]					Torque of the flex. coupling	
	Type 475.324. _ cup spring layer single	Type 475.424. _ cup spring layer double	Type 475.524. _ cup spring layer triple	Type 475.624. _ cup spring layer quadruple	Type 475.724. _ cup spring layer sextuple	T _{K nom} [Nm]	T _{K max} [Nm]
5	240 – 600	480 – 1200	720 – 1800	960 – 2400	1440 – 3600	6400	13000
6	600 – 1250	1200 – 2500	1800 – 3750	2400 – 5000	3600 – 7500	13200	27000

Size	Mass moments of inertia [kgm ²]			Mass [kg]		Shaft misalignments flexible coupling		
	Clutch side EAS [®] -XT Type 475. _ 24. _	Flex. coupling Type 475. _ 24.0	Flex. coupling Type 475. _ 24.8	Type 475. _ 24		Axial [mm]	Radial [mm]	Angle [°]
				.0	.8			
5	0,20	1,48	1,68	143,0	162,0	+/- 2,5	0,8	0,17
6	0,62	4,56	5,21	290,0	326,0	+/- 2,5	1,0	0,13

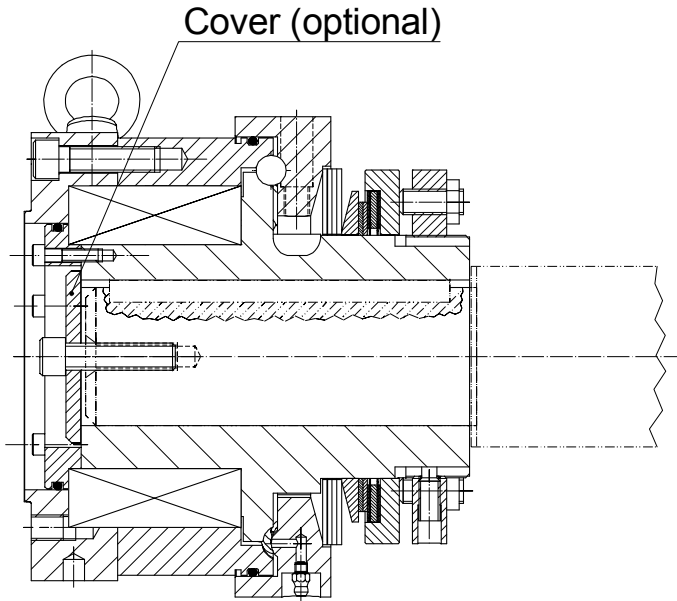
Size	Maximum speed [rpm]	Stroke of the thrust washer [mm]	1) Bores	
			EAS [®] -XT d [mm]	Flexible coupling d ₁ [mm]
5	2000	4,5	45 – 95	70 – 150
6	1500	5,5	70 – 125	85 – 190

Size	A	A ₁	C	C ₁	D	D _H	E	F	F ₁	f	G ³⁾	h
5	67,5	50	206,0	321,0	208,0	330	103	200	250	10	M16	182
6	117	66	292,0	427,0	275,0	415	130	230	310	12	M16	224

Size	Length of the fit h ₁	L	L ₁	l ₁	N	S	SW1	SW2	t
5	118	488,5	603,5	156	101,5	8	18	6	50
6	184	635,0	770,0	196	131,0	8	24	8	65

¹⁾ standard bore tolerances are H7 or G7 fits, other fits on request.

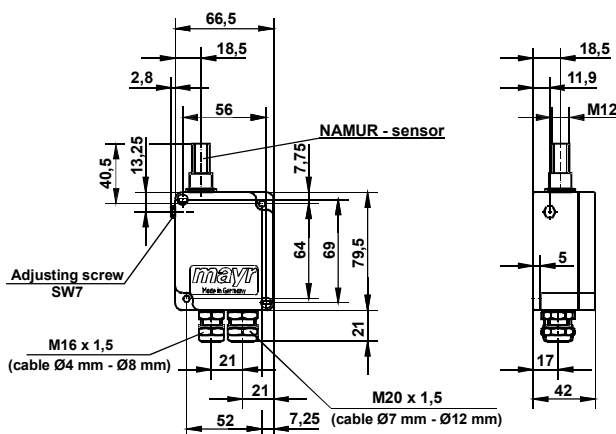
³⁾ dependent on the bore diameter d₁



On request we include a washer for axial attachment of the clutch.
Please indicate the size of the centering thread of the shaft with your order.

The fixing screw (DIN 912) is not included in the delivery.

Limit switch (optional)

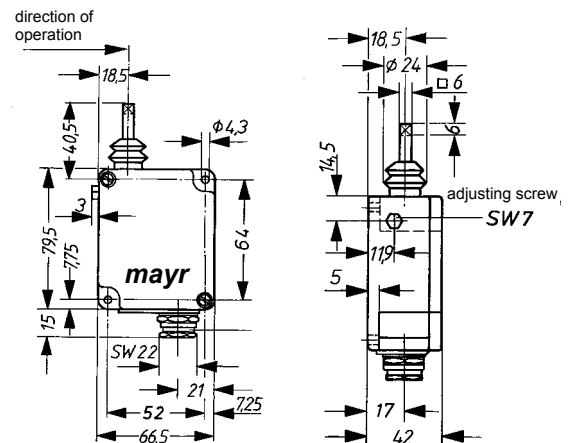


**Type 055.002.5 (contactless limit switch)
with internal NAMUR-sensor fitted in the light metal housing**

Technical data:

Supply voltage: 230 VAC, +/-10 %, 50-60 Hz
(to be included when 115 VAC, +/-10 %, 50-60 Hz
ordering)
Input: 24 VDC, +/-5 %, independent polarity
1,5 VA
Ambient temperature: amplifier: -10 °C up to +60 °C
NAMUR-sensor: -25 °C up to +60 °C
Protection: amplifier: IP 54
NAMUR-sensor: IP 67
Max. connecting cross section: 2,5 mm²
Weight: 320 g
Relay: 1x change over contact, potential free
Contact load: max. 230 VAC / 5 Amp.
NAMUR-sensor: to EN 50227
metal housing M12 x 1 mm
flush fitting
switching distance SN 2 mm
max. switching frequency 2 kHz

Further limit switch types on request.



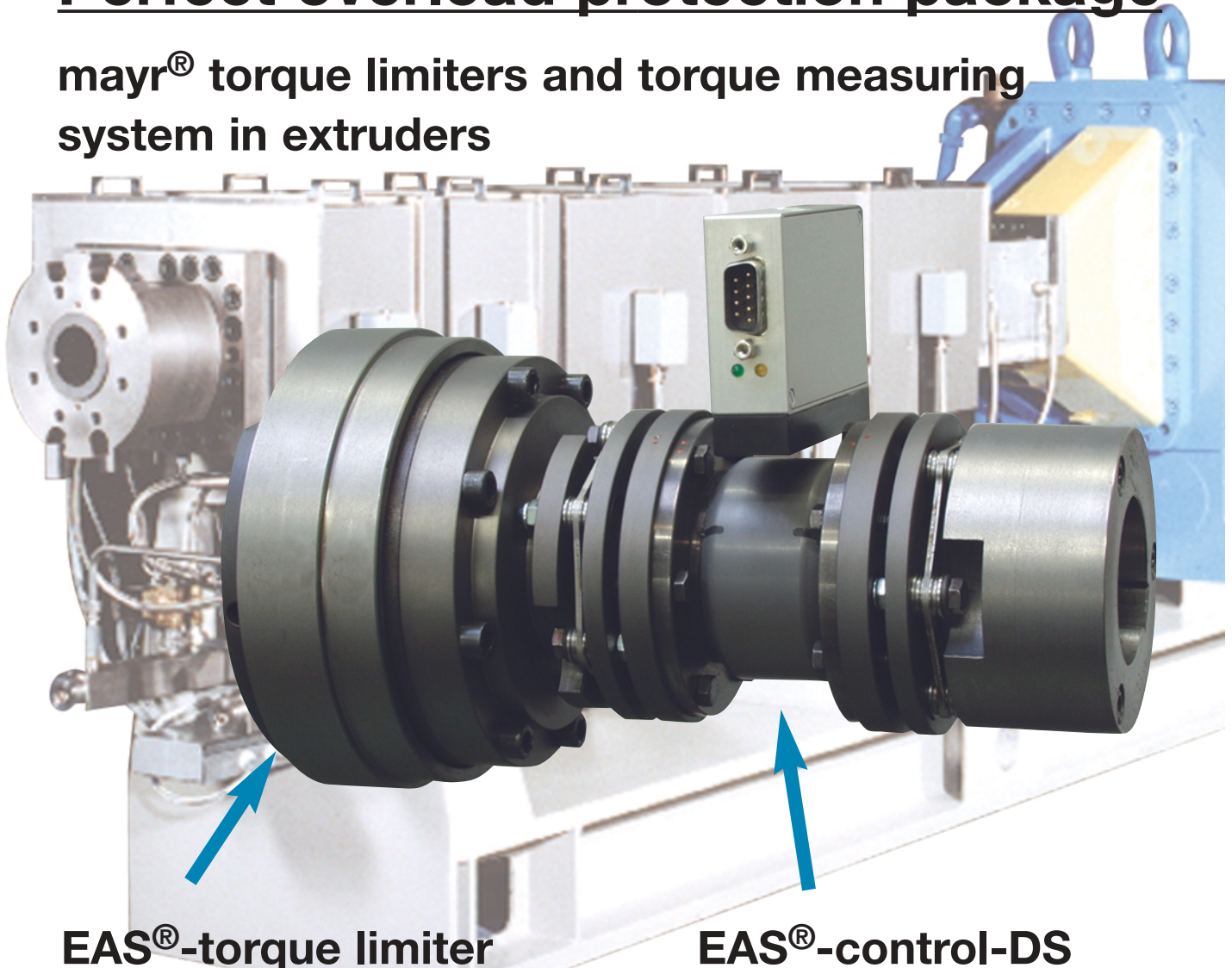
**Type 055.000.5 (mechanical limit switch)
- light metal housing -**

Technical data:

Micro switch: 1 x change over contact 11-12-14-
(snap-acting)
Contact load: 250 VAC/15 Amp.
24 VDC/6 Amp.
60 VDC/1,5 Amp.
250 VDC/0,2 Amp.
Contact capacity min.: 12 VDC, 10 mA
Contact material: Ag CdO 90/10
Switching frequency: max. 200 switchings/min.
Ambient temperature: -10 °C up to +85 °C
Protection: IP 54
Weight: 275 g
Switch travel: By adjusting screw arranged laterally
the zero shift is possible to right and left
by max. 5 mm, wrench width SW7.
Pretravel: min. 0,5 mm
Overtravel: max. 10 mm, (min. 5 mm)
depending on the zero shift.

Perfect overload protection package

mayr[®] torque limiters and torque measuring system in extruders



EAS[®]-torque limiter

The mechanical torque limiter protects the machine against expensive overload damage

- protects costly screws and gears in case of collision
- completely disengages input and output when overloaded
- high disengaging accuracy over total service life of clutch
- limit switch actuates shut down of drive
- high reliability with robust mechanical components
- simple adjustment of disengaging torque

EAS[®]-control-DS

The torque measuring system optimizes and monitors the process

- continuous monitoring
- optimizes quality and output
- documentation of operating torques
- output signal proportional to operating torque
- robust and maintenance-free
- contactless transmission of signals

For detailed information on torque limiters and torque measuring systems please contact:

Chr. Mayr GmbH + Co. KG
Eichenstraße 1
D-87665 Mauerstetten
Germany

Telephone +49-8341/804-241 + 242
Telefax +49-8341/804 422
<http://www.mayr.de>
eMail: info@mayr.de

mayr[®]

Worldwide representation

Headquarters

Chr. Mayr
GmbH + Co. KG
Eichenstrasse 1
D-87665 Mauerstetten
Tel.: 49-83 41/8 04-241
Fax: 49-83 41/8 04422
<http://www.mayr.de>

Great Britain

Mayr Transmissions Ltd
Valley Road, Business Park
GB-Keighley, BD21 4LZ
West Yorkshire
Tel.: 0 15 35/66 39 00
Fax: 0 15 35/66 32 61
sales@mayr.co.uk

Italy

Mayr Italia S.r.l.
Viale Veneto, 3
I-35020 Saonara (PD)
Tel.: 0 49/8 79 10 20
Fax: 0 49/8 79 10 22
info@mayr-italia.it

France

Mayr France S.A.
Z.A.L. du Minopole
BP 16
F-62160 Bully-Les-Mines
Tel.: 03/21.72.91.91
Fax: 03/21.29.71.77
contact@mayr.fr

Switzerland

Mayr Kupplungen AG
Tobeläckerstrasse 11
CH-8212 Neuhausen
am Rheinfall
Tel.: 0 52/6 74 08 70
Fax: 0 52/6 74 08 75
info@mayr.ch

USA

Mayr Corporation
4 North Street
USA-Waldwick
NJ 07463
Tel.: 2 01/4 45-72 10
Fax: 2 01/4 45-80 19
info@mayrcorp.com

Singapore

Mayr Transmission (S)
Pte. Ltd. – Blk 133
Jurong East Street 13
Unit 03-291
SGP-Singapore 600133 Asean
Tel.: 0065/6560 1230
Fax: 0065/6560 1000
mayr@pacific.net.sg

Korea

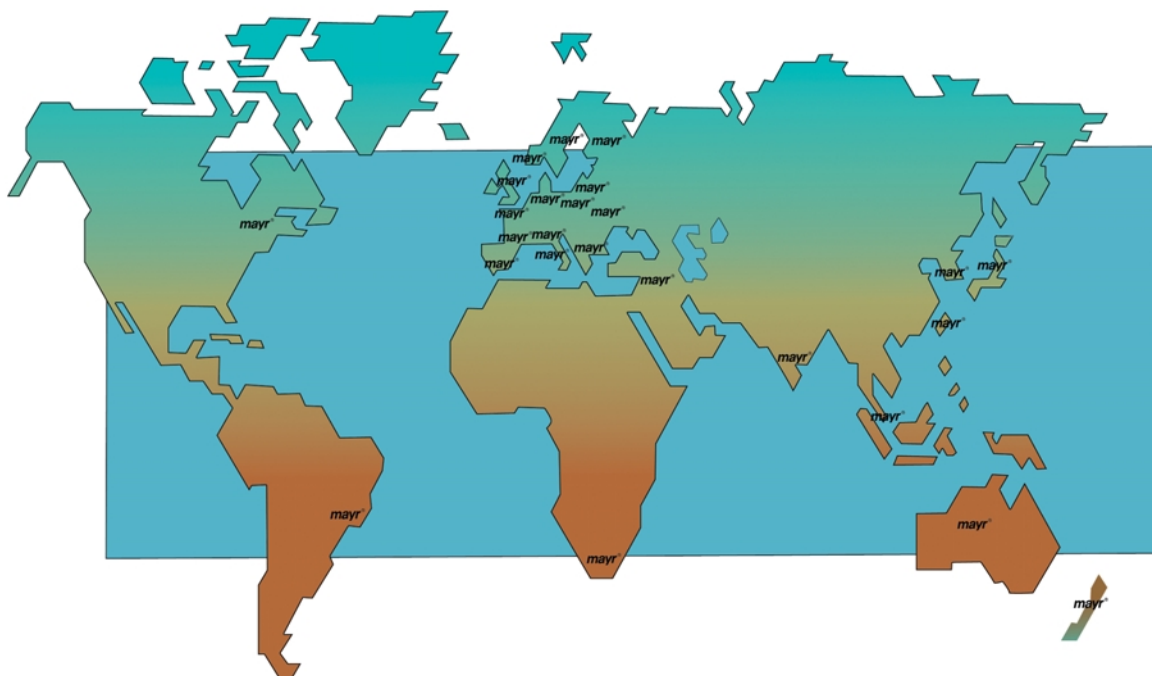
Mayr Korea
P. O. Box 23
Changwon, Kyungnam
Rep. of Korea
Tel.: 055/262-4024
Fax: 055/262-4025
jplmk@nownuri.net

Taiwan

(for machine tool manuf.)
German Tech Auto Co., Ltd.
No. 58, Wu Chuan Road
Wu-Ku Industrial Park
RC-Taipei Hsien, Taiwan
Tel.: 02/22990237
Fax: 02/22990239
steve@zfgta.com.tw

China

Driveline Technology
Co., Ltd.
Weihai Road 350
Room 401 – 403
200041 Shanghai
Tel.: 021/6267-9779/-3599
Fax: 021/6267-2190
dtcshanghai@online.sh.cn



Australia

Reynolds
Dynamics Pty. Ltd.
1B/310 Boundary Road
Dingley 3172, VIC
AUS-Melbourne
Tel.: 039/551 6633
Fax: 039/551 6725
sales@reynoldsdynamics.com.au

New Zealand

Saeco A.D.I.Ltd.
36 Hastie Avenue
Mangere East
P. O. Box 22-256
NZ-Otahuhu-Auckland
Tel.: 09/634 7540
Fax: 09/634 2023
grant@saeco.co.nz

India

National Engineering
Company (NENCO)
J-225, M.I.D.C. Bhosari
IND-Pune 411 026
Tel.: 020/7 47 45 29
Fax: 020/7 47 02 29
nenco@vsnl.com

Japan

Shinwa Trading Co. Ltd.
1-3, 3-Chome
Goko-Dori, Chuo-ku
Kobe City
Tel.: 078/251 23 11
Fax: 078/265 26 76
ohta@shinwa-kobe.co.jp

South Africa

Torque Transfer
Private Bag 9
ZA-Elandsfontein 1406
Tel.: 011/392 27 71
Fax: 011/392 25 61
torque@bearings.co.za

Austria

Benelux States

Brazil

Canada

Czech Republic

Denmark

Finland

Greece

Hongkong

Hungary

Indonesia

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Note:

If a country is not shown, please refer to headquarters or our web site to be advised of the nearest responsible agent.

mayr[®]
your reliable partner



Safety clutches/ torque limiters

- ❑ **EAS®-Compact/EAS®-NC**
Backlash-free, positive safety clutches
- ❑ **EAS®-standard**
Positive safety clutch with backlash
- ❑ **EAS®-overload/EAS®-elements**
Modular overload clutch for heavy duty applications
- ❑ **EAS®-axial**
Overload protection for linear movements
- ❑ **EAS®-Sp/EAS®-Sm/EAS®-Zr**
Pneumatically or electromagnetically controlled torque limiting clutches with ON/OFF control
- ❑ **ROBA®-slip hubs**
Load holding, friction type safety clutches

Shaft couplings

- ❑ **smartflex®**
Precision shaft coupling for servo applications, direct drive systems and stepping motors
- ❑ **ROBA®-DX**
Backlash-free, torsionally rigid flexible steel bellows coupling
- ❑ **ROBA®-ES**
Backlash-free and flexible for vibratory critical drives
- ❑ **ROBA®-DS**
Backlash-free, torsionally rigid and shock-proof all-steel flexible coupling
- ❑ **ROBA®-D**
Backlash-free, torsionally rigid all steel flexible coupling

Electromagnetic brakes/clutches

- ❑ **ROBA-stop® safety brakes**
Electromagnetic spring applied safety brakes
- ❑ **ROBA-stop®-M motor brakes**
Electromagnetic spring applied safety brakes
- ❑ **ROBA-stop®-Z dual circuit fail safe brakes**
Double security or double braking torque
- ❑ **ROBA®-quick brakes**
Electromagnetic pole face brakes
- ❑ **ROBATIC®-clutches**
Electromagnetic pole face clutches
- ❑ **ROBA®-takt**
Clutch brake units

