

GERMANY

LABORATORY TECHNOLOGY®
Buddenberg
www.buddenberg.de



Compressed air stirrers

Compressed air motors

Magnetic stirrer couplings

Magnetic stirrer drives

Stirring rotors

Lab safety / security

PLR-Catalogue



Dear Customers,

We are pleased to present our new PLR catalogue in which you will find our proven product line of compressed air stirrers with their wide range of accessories, as well as magnetic stirrer couplings and special articles.

Our high-quality compressed air stirrers are available in various designs and arrangements for all kinds of stirring tasks that occur in laboratories and production. Since 2005 we have offered our compressed air stirrers certified to ATEX regulations.

Our proven range of MRK magnetic stirrer couplings is now complemented by the PMRK magnetic stirrer couplings made of super PTFE compound which are characterised by their excellent temperature and chemical resistance. And we offer a new electric motor drive for the MRK series with a particularly slim and compact design for applications within limited hood space.

In addition to the catalogue, you can find our complete product range on the Internet at:

www.buddeberg.de

We invite you to take advantage of this modern and easy way to order, and to explore the extensive source of information provided.



Do you have any questions or special wishes?

Please feel free to contact us. We will find the solution that suits your requirements.

Our product experts will be pleased to actively assist you with their customer service know-how.

We thank you for placing your confidence in us and assure you that your orders will receive our best and immediate care.

Yours faithfully
(Company Management)

Hubert Bohlender

Your contact person



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Buddeberg- compressed-air-stirrers

are suitable for all kinds of stirring tasks that occur in laboratories, technical colleges and manufacturing.

Advantages:

explosion-proof, overload capacity to standstill, suitable for continuous operation, high power to weight ratio, vane air motor design which enables smooth starting and low maintenance.

Operation Notes:

Please check the compressed air supply feed before operating the stirrer.

The maximum admissible working pressure is 6 bar.

If the compressed air contains dirt or condensate, we recommend that appropriate service units are fitted. If the air supply is already pre-treated by a dryer or a water precipitator, it would be advisable to attach a manual oiler directly to the stirrer. Depending on the size of the motor and the stirring period, the finger-operated oiler should be activated briefly every 1-2 hours. Existing stirrers can easily be fitted with an oiler.



Important:

Do only use resin-free and non-corrosive oil when refilling the oiler !

Noise level reduction

The standard versions of the compressed air stirrers reach a noise level of 70 to 74 dB (A). This can be reduced to a minimum by attaching our "exhaust air vent" (see accessories) and an additional silencer.

Please contact us for further information on the options for reducing the noise level.



ATEX Certification for Compressed Air Stirrers

These compressed air-driven laboratory stirrers and industrial stirrers are now certified in accordance with Directive 94/9/EG (ATEX).

The compressed air stirrers are, according to the type, classified as

Ex II 2G c IIB T4, $\leq -20^{\circ}\text{C}$ TA $\leq +40^{\circ}\text{C}$ and

Ex II 2G c IIB T5, $\leq -20^{\circ}\text{C}$ TA $\leq +40^{\circ}\text{C}$.



Important information for operating the stirrers in potentially explosive atmospheres:

Chucks are not to be used in potentially explosive atmospheres!

As an alternative, we offer a large selection of connection couplings of the types VK in our accessory range, available for rod diameters from 7 mm up to 20 mm.

All stirrer types are fitted with an earthing point for equipotential bonding.

Use of the stirrers in potentially explosive atmospheres must be decided on the spot, depending on the local operating conditions.

We will be pleased to answer any further questions you may have, and invite you to contact us.



ZERTIFIKAT • CERTIFICATE • CERTIFICADO • CERTIFICAT • СЕРТИФИКАТ

EG-Bescheinigung
Nr. EX9 05 06 52461 002

Zertifikatsinhaber: Gebr. Buddeberg GmbH
Mallaustr. 49
66210 Mannheim
66210 SCHLANK

Objektbezeichnung: Nichtelektrische Geräte und Komponenten der Gerätegruppe II

Modell(e):  Druckluft-Laborrührer und -Rührwerke der Typen:
PLR 10, PLR 11, PLR 12, PLR 13, PLR 10-VIM,
PLR 10 T (Tacho-Version),
PLR 11 T (Tacho-Version), PLR 12 T (Tacho-Version),
PLR 13 T (Tacho-Version), PMR 10, PMR 11, PMR 12,
PMR 13, PMR 10 T (Tacho-Version),
PMR 11 T (Tacho-Version), PMR 12 T (Tacho-Version),
PMR 13 T (Tacho-Version)

Druckluft-Industrierührwerke der Typen:
PM 50160-A.V., PM 50165-A.V., PM 50205-A.V., WSR 50160,
WSR 50165, WSR 50205, ISR 50160, ISR 50165, ISR 50205,
AR 50160, AR 50165, AR 50205, AFR 50160, AFR 50165,
AFR 50205, PM 50205, PM 50160, PM 50165, PM 50205,
PM 110160, PMG 50205, PMG 50400, PMG 50700,
PMG 110400, PMG 110220.

Objektbeschreibung: 1 Satz technische Unterlagen in Papierform.

Dieser EG-Bescheinigung bestätigt den Empfang und die Aufbewahrung der Unterlagen für das bezeichnete Produkt gemäß Artikel 6(1) b) i) der Richtlinie des EU-Rates Nr. 94/9/EG für Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen (ATEX). Grundlage dieser Bescheinigung sind die TÜV Product Service GmbH überlassenen Unterlagen, die weiter auf Richtigkeit nach auf Vollständigkeit überprüft wurden. Unvollständige Hinweise sind zu beachten.

Bericht Nr.: 70005557

Datum: 2000-05-07

TÜV Product Service GmbH ist benannte Stelle gemäß der Richtlinie des Rates Nr. 94/9/EG für Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen mit der Kennnummer 0223.

Seite 1 von 1

TÜV Product Service GmbH • TÜV SÜD Gruppe • Zenofontstraße 60 • 80229 München • Germany

Applications

Compressed air stirrers



Compressed air stirrer PLR 11



Compressed air stirrer PLR 12 with finger-operated oiler



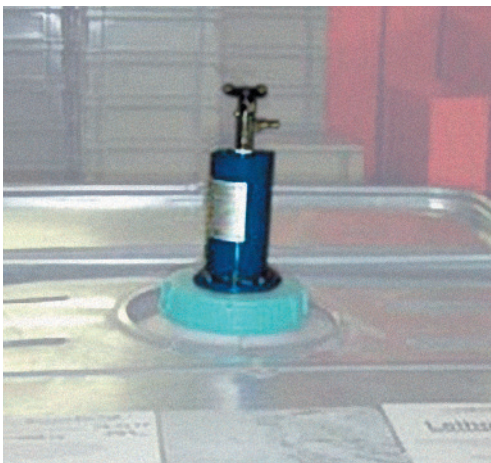
Compressed air stirrer PLR 11 with tachometer



Compressed air floor standing stirrer BSR 56/160



Compressed air floor standing stirrer BSR 56/65



Compressed air stirrer PM 56/160



Compressed air stirrer PM 56/160 stainless steel housing

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Compressed air stirrers type PLR

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1 Compressed air stirrers type PLR

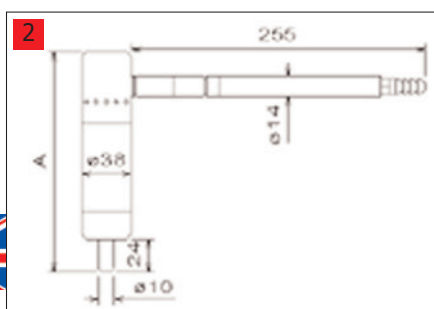
Basic models include:

- PLR motor
- all-stainless steel housing, grade 1.4104
- continuously adjustable, fine control valve speed regulation
- support arm Ø 14 mm with tubing nozzle connector Ø 9 mm
- operating pressure max. 6 bar
- power output 200 W at 6 bar
- clockwise rotation
- air consumption 260 L/min. at 6 bar
- output shaft L x Ø 24 x 10 mm
- stirring capacity max. 25 L



Type PLR 10 constructed to Ex II 2G c IIB T4 and types PLR 11 - PLR 13 constructed to Ex II 2G c IIB T5 according with Directive 94/9 EG (ATEX).

Type	No-load speed rpm	Torque Nm	Gear (s)	Viscosity	Code-No.
PLR 10	15000	0.3	0	low	40 26446 00247 3
PLR 11	1750	2.3	1	medium	40 26446 00251 0
PLR 12	1000	3.5	2	high	40 26446 00260 2
PLR 13	80	25.0	3	maximum	40 26446 00268 8



2 Dimensions for PLR standard version

Type	A mm	Weight kg	Code-No.
PLR 10	125	0.9	PLR 10
PLR 11	160	1.1	PLR 11
PLR 12	195	1.4	PLR 12
PLR 13	228	1.6	PLR 13



3 Compressed air stirrer type PLR with tachometer

Basic models include:

- PLR motor
- all-stainless steel housing, grade 1.4104
- analogue tachometer
- continuously adjustable, fine control valve speed regulation
- support arm Ø 14 mm with tubing nozzle connector Ø 9 mm
- operating pressure max. 6 bar
- power output 200 W at 6 bar
- clockwise rotation
- air consumption 260 L/min. at 6 bar
- output shaft L x Ø 24 x 10 mm
- stirring capacity max. 25 L



Type PLR 10 T constructed to Ex II 2G c IIB T4 and types PLR 11 T - PLR 13 T constructed to Ex II 2G c IIB T5 according with Directive 94/9 EG (ATEX).

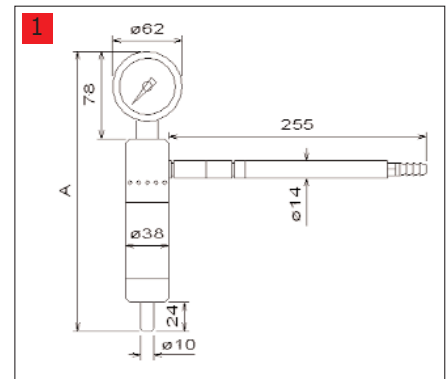
Type	No-load speed rpm	Torque Nm	Gear (s)	Viscosity	Code-No.
PLR 10 T	15000	0.3	0	low	40 26446 00248 0
PLR 11 T	1750	2.3	1	medium	40 26446 00253 4
PLR 12 T	1000	3.5	2	high	40 26446 00261 9
PLR 13 T	80	25.0	3	maximum	40 26446 00269 5

Compressed air stirrers type PLR

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1 Dimensions for PLR with tachometer

Type	A mm	B mm	Weight kg	Code-No.
PLR 10-T	221	143	1.2	PLR 10-T
PLR 11-T	258	180	1.4	PLR 11-T
PLR 12-T	291	213	1.7	PLR 12-T
PLR 13-T	325	247	1.9	PLR 13-T



2 Compressed air stirrers with circular flange

Basic models include:

- PMR motor with circular flange
- all-stainless steel housing, grade 1.4104
- tubing nozzle connector Ø 9 mm
- operating pressure max. 6 bar
- power output 200 W
- air consumption 260 L/min.
- clockwise rotation
- stirring capacity max. 30 L
- oval flange on request
- all data shown is at 6 bar air pressure



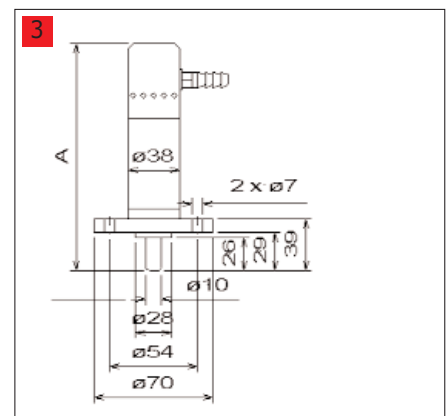
Type PMR 10 constructed to Ex II 2G c IIB T4 and types PMR 11 - PMR 13 constructed to Ex II 2G c IIB T5 according with Directive 94/9 EG (ATEX).

Type	No-load speed rpm	Torque Nm	Viscosity	Code-No.
PMR 10	15000	0.3	low	40 26446 00250 3
PMR 11	1750	2.3	medium	40 26446 00259 6
PMR 12	1000	3.5	high	40 26446 00266 4
PMR 13	80	25.0	maximum	40 26446 00270 1



3 Dimensions for PMR

Type	A mm	Weight kg	Code-No.
PMR 10	125	0.9	PMR 10
PMR 11	160	1.1	PMR 11
PMR 12	195	1.4	PMR 12
PMR 13	228	1.6	PMR 13



Accessories for compressed air stirrers type PLR

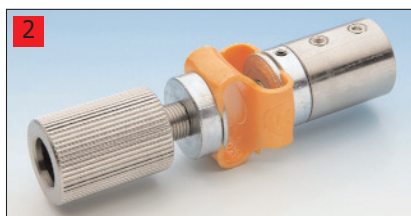
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1 Speed regulation valve

Fine control valve for stepless speed regulation.

Description	Type	Code-No.
Speed regulation valve	V	40 26446 00046 2



2 Flexible glass tube couplings

For stirring tasks using glass stirring rods. Elastic connector between motor and stirring shaft. Provides exact alignment of motor and shaft, and evens out axial and height differences. Shaft clamping width 6 - 10 mm, drive shaft receiver 10 or 10/13 mm to be fixed by set screws..

Description	Type	Code-No.
Flex coupling receiver i.d. 10 mm	PK 10	40 26446 00058 5
Flex coupling receiver i.d. 10/13 mm	PK 10/13	40 26446 00059 2



3 Finger-operated oiler

For manual lubrication of PLR stirrers.

Description	Type	Code-No.
Finger-operated oiler	ÖT	40 26446 00047 9



4 Flexible glass tube couplings

For stirring tasks using glass stirring rods. Elastic connector between motor and stirring shaft. Provides exact alignment of motor and shaft, and evens out axial and height differences. Shaft clamping width 6 - 10 mm, drive shaft receiver available for diameters 10, 10/13 and 15 mm.

Description	Type	Code-No.
Flex coupling receiver i-Ø 10 mm	K 10	40 26446 00054 7
Flex coupling receiver i-Ø 10/13 mm	K 10/13	40 26446 00055 4
Flex coupling receiver i-Ø 15 mm	K 15	40 26446 00061 5



5 Exhaust air vent

To duct exhaust air away through tubing. Prevents dirt from getting into the stirring medium. Reduces the noise level of the stirrer during use.

Description	Type	Code-No.
Exhaust air vent for PLR standard version	GA	40 26446 00093 6
Exhaust air vent for PLR with tachometer	GA-T	40 26446 00094 3

Accessories for compressed air stirrers type PLR

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1 Chuck

For quick, easy attachment of stirring rods.
Not to be used in potentially explosive atmospheres.

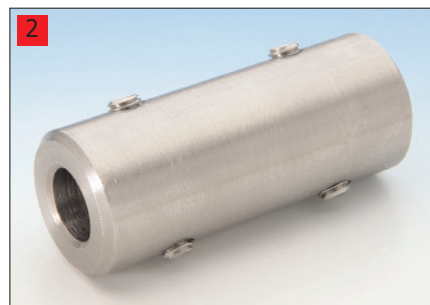
Description	Type	Code-No.
Chuck for shafts 0.5 - 8.5 mm	F8	40 26446 00048 6



2 Connection couplings

Fixed-diameter connection for motor/magnetic coupling drive shaft and stirring rod. Suitable for use in potentially explosive atmospheres.

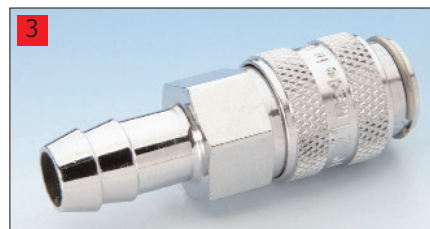
Description	Type	Code-No.
Connection coupling for PLR (Ø 10 mm)	VK 10 x 6	40 26446 00035 6
Connection coupling for PLR (Ø 10 mm)	VK 10 x 8	40 26446 00037 0
Connection coupling for PLR (Ø 10 mm)	VK 10 x 10	40 26446 00038 7
Connection coupling (Ø 7 mm)	VK 7 x 6	40 26446 00033 2
Connection coupling (Ø 7 mm)	VK 7 x 8	40 26446 00034 9
Connection coupling (Ø 7 mm)	VK 7 x 10	40 26446 00036 3



3 Quick-action coupling

For simple, rapid connection of compressed air feed and motor.

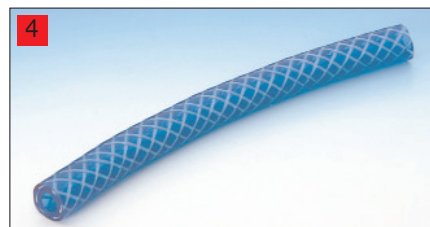
Description	Type	Code-No.
with tubing nozzle connector 9 mm, NW5	SK-9	40 26446 00049 3



4 Compressed air tubing

fabric reinforced, operating pressure max. 10 bar.

Description	Type	Code-No.
Compressed air tubing i.d. 6 mm	DS-6	40 26446 00071 4
Compressed air tubing i.d. 9 mm	DS-9	40 26446 00062 2



5 Tubing clamps

To attach the compressed air supply tubing to the motor.

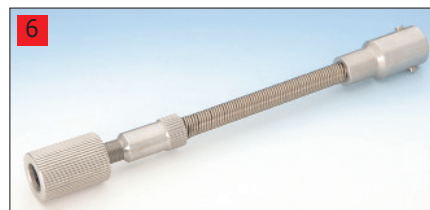
Description	Type	Code-No.
Tubing clamp Ø 12 - 16 mm	OF-9	40 26446 00063 9



6 Flexible couplings

For stirring tasks using glass stirring rods. Flexible connector between motor and stirring shaft. Provides exact alignment of motor and shaft, and evens out axial and height differences. Shaft clamping width 6 - 10 mm, drive shaft receiver 10 or 10/13 mm.

Description	Type	Code-No.
Flex coupling receiver i.d. 10 mm	KV 10	40 26446 00056 1
Flex coupling receiver i.d. 10/13 mm	KV 10/13	40 26446 00057 8



Accessories for compressed air stirrers type PLR

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1 Double-Cardan-Coupling

with 8 mm dia. hexagonal input drive shaft and 6 mm square socket drive putput.

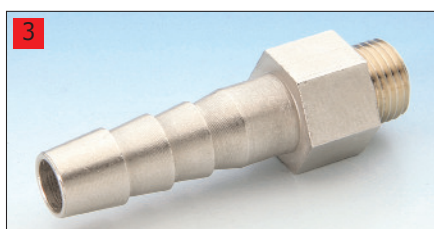
Description	Type	Code-No.
stainless steel, L = 110 mm	DCK	40 26446 00141 4



2 Double-Cardan-Coupling

drive side with i.d. 10 mm receiver, output side with 6 mm square socket.

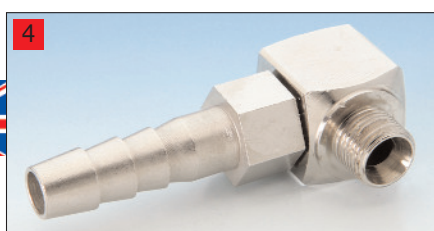
Description	Type	Code-No.
stainless steel, L = 110 mm	DCK	1.680.078



3 Tubing nozzle

R 1/8" x 9 mm.

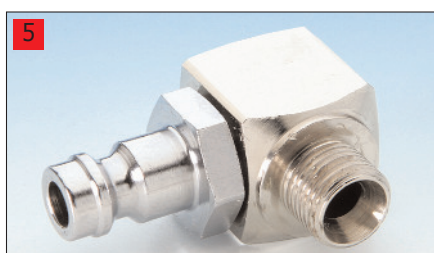
Description	Type	Code-No.
Tubing nozzle R 1/8" x 9 mm	R 18-9	40 26446 00051 6



4 Angled connection 1/8"

with 9 mm tubing nozzle.

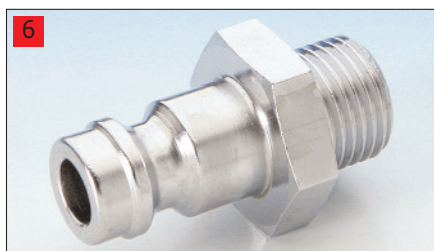
Description	Type	Code-No.
Angled connection 1/8" with 9 mm tubing nozzle	WA-9	40 26446 00052 3



5 Angled clip connection 1/8", NW 5

Angled clip connection 1/8", NW 5

Description	Type	Code-No.
Angled clip connection 1/8", NW 5	WA-ST 18	40 26446 00053 0



6 Snap connection R 1/8"

for quick-action coupling, NW 5.

Description	Type	Code-No.
Snap connection R 1/8"	ST-18	40 26446 00050 9

Accessories for compressed air stirrers type PLR

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1 Service unit

with filter and fogging oiler, threaded connection 1/4".
Suitable for max. 3 PLR stirrers (flow rate 800 L/min. at 6 bar input pressure).

Description	Type	Code-No.
Service unit	WE-14	40 26446 00060 8



2 Machine oil

resin-free and non-corrosive, 500 ml.

Description	Type	Code-No.
Machine oil resin-free and non-corrosive, 500 ml	Öl	40 26446 00081 3



3 4 5 Retort stand

For PLR stirrers and other small attachments, weight 3 kg.

Description	Type	Code-No.
Retort stand with rod, WxDxH = 210 x 315 x 1000 mm		40 26446 00324 1
Swivelling bosshead 16 mm	KK-16	40 26446 00325 8
Cross bosshead 16 mm	KK 16-16	40 26446 00064 6



6 Stirring shaft protection

Prevents injuries by rotating stirrers during use.
Length adjustable 190-310 mm, incl. support arm L=275 mm, without bosshead.

Description	Code-No.
Stirring shaft protection	40 26446 00095 0



Stirring rotors for PLR stirrers

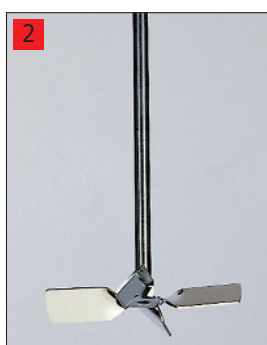
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1 Stirring rotors for PLR stirrers

stainless steel grade 1.4305

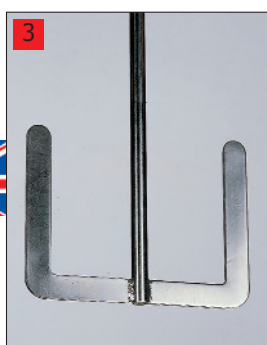
Type	Paddle Ø mm	Shaft Ø mm	Length mm	Code-No.
Centrifugal Stirrer	60/15	8	350	40 26446 00118 6
Centrifugal Stirrer	100/24	8	550	40 26446 00119 3



2 Stirring rotors for PLR stirrers

stainless steel grade 1.4305

Type	Paddle Ø mm	Shaft Ø mm	Length mm	Code-No.
Propeller Stirrer	50	8	350	40 26446 00115 5
Propeller Stirrer	100	8	350	40 26446 00116 2
Propeller Stirrer	100	8	550	40 26446 00117 9



3 Stirring rotors for PLR stirrers

stainless steel grade 1.4305

Type	Paddle Ø mm	Shaft Ø mm	Length mm	Code-No.
Anchor Stirrer	80 mm	8	500	40 26446 00129 2
Anchor Stirrer	100 mm	8	500	40 26446 00130 8
Anchor Stirrer	150 mm	10	600	40 26446 00131 5



4 Stirring rotors for PLR stirrers

stainless steel grade 1.4305

Type	Paddle Ø mm	Shaft Ø mm	Length mm	Code-No.
Double blade Stirrer	60 mm	8	500	40 26446 00127 8
Double blade Stirrer	80 mm	8	500	40 26446 00128 5

Stirring rotors for PLR stirrers

Englisch

1 Stirring rotors for PLR stirrers

stainless steel grade 1.4305

Type	Paddle Ø mm	Shaft Ø mm	Length mm	Code-No.
Propeller Stirrer	45	8	350	40 26446 00123 0
Propeller Stirrer	55	8	350	40 26446 00124 7
Propeller Stirrer	140	10	550	40 26446 00125 4
Propeller Stirrer	140	10	850	40 26446 00126 1



2 Stirring rotors for PLR stirrers

stainless steel grade 1.4305

Type	Paddle Ø mm	Shaft Ø mm	Length mm	Code-No.
Paddle Stirrer	70	8	350	40 26446 00120 9
Paddle Stirrer	70	8	550	40 26446 00121 6
Paddle Stirrer	150	10	550	40 26446 00122 3



3 Stirring rotors for PLR stirrers

stainless steel grade 1.4305

Type	Paddle Ø mm	Schaft - Ø mm	Length mm	Code-No.
Dissolver Stirrer	30	8	350	40 26446 00109 4
Dissolver Stirrer	40	8	350	40 26446 00110 0
Dissolver Stirrer	50	8	550	40 26446 00111 7
Dissolver Stirrer	60	8	550	40 26446 00112 4
Dissolver Stirrer	70	8	550	40 26446 00113 1
Dissolver Stirrer	80	8	550	40 26446 00114 8



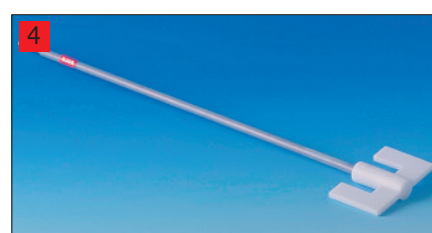
4 5 PTFE-coated stirring shafts for PLR stirrers

consist of a fluoroplastics-jacketed stainless steel shaft and a stirrer paddle made of solid PTFE. The stainless steel core assures firm attachment of the stirrer chuck, but will not come into contact with the medium.

Operating temperature -200°C to +250°C

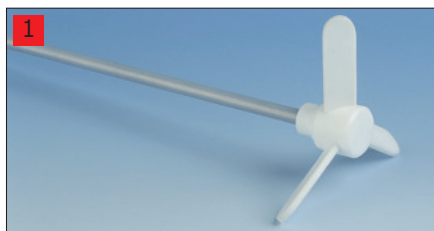
We would be pleased to offer you a made-to-order shaft according to your specifications.

Type	Length mm	Shaft Ø mm	to fit chuck Ø mm	Paddle W mm	Paddle Ø mm	Code-No.
Anchor Stirrer	350	10	8	5	80	6.001 323
Anchor Stirrer	600	10	8	5	100	6.001 324
Anchor Stirrer	800	16	14	8	150	6.001 325
Propeller Stirrer	600	10	8	3	75	6.001 320



Compressed air stirrers type PLR

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1 PTFE-coated stirring shafts for PLR stirrers

Type	Length mm	Shaft Ø mm	to fit chuck Ø mm	Paddle W mm	Paddle Ø mm	Code-No.
Propeller Stirrer	800	10	8	4	140	6.001 321
Propeller Stirrer	1000	16	14	6	200	6.001 322



2 Hollow shaft adapter for PLR stirrers

For easy height adjustment of the stirring rotor.
Supplied without motor.

Basic design consisting of:

- aluminium gear housing
- chuck clamping width 1 - 10.5 mm
- support arm L = 220 mm
- connection coupling between motor and gear
- gear size L x W x H (mm) = 100 x 50 x 75
- weight 1.2 kg

Description	Code-No.
Hollow shaft adapter	40 26446 00088 2



3 Compressed air magnetic stirrer PLR

Stirring capacity max. 10 L, accommodates magnetic stirring bars max. 80 x 10 mm (L x Ø).

Basic model includes:

- PLR 10 motor
- all-stainless steel motor housing
- continuously adjustable, fine control valve speed regulation
- magnetic adapter -M, aluminium housing
- support arm Ø 14 mm with tubing nozzle connector Ø 9 mm
- clockwise rotation

PLR 10-V/M constructed to Ex II 2G c IIB T4 according with Directive 94/9 EG



Type	No-load speed rpm	Pressure max. bar	Power output Watt	Code-No.
PLR 10-V/M	2000	2	55	40 26446 00257 2



4 Magnetic adapter M for PLR stirrers

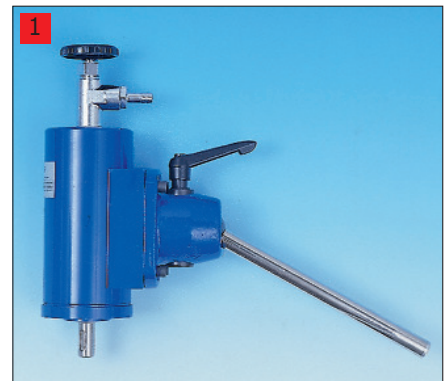
Description	Code-No.
Magnetic adapter M	40 26446 00289 3

1 Compressed air stirrers with spherical swivel clamp

Basic models include:

- motor type: PM
- plastic-coated housing
- valve for stepless speed regulation
- tubing nozzle Ø 9 mm
- spherical clamping device-A, swivelling, with support arm Ø 16 mm, length 200 mm
- operating pressure max. 6 bar
- power output 560 W
- air consumption 800 L/min.
- clockwise rotation
- stirring capacity approx. 200 L
- all data shown is at 6 bar air pressure

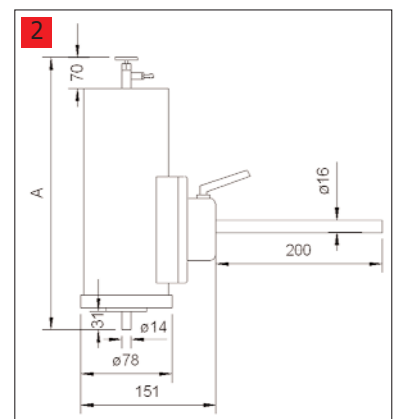
PM 56 available to Ex II 2G c IIB T5 according with Directive 94/9 EG (ATEX).



Type	No-load speed rpm	Torque Nm	Viscosity	Weight kg	Gear (s)	Code-No.
PM 56/160-A-V	2500	3.0	low	4.5	1	40 26446 00315 9
PM 56/65-A-V	1300	8.1	medium	5.0	2	40 26446 00317 3
PM 56/30-A-V	600	17.5	high	5.0	2	40 26446 00319 7

2 Dimensions for PM 56-A-V

Type	A mm	Code-No.
PM 56/160-A-V	265	PM 56/160-A-V
PM 56/65-A-V	302	PM 56/65 -A-V
PM 56/30-A-V	302	PM 56/30 -A-V

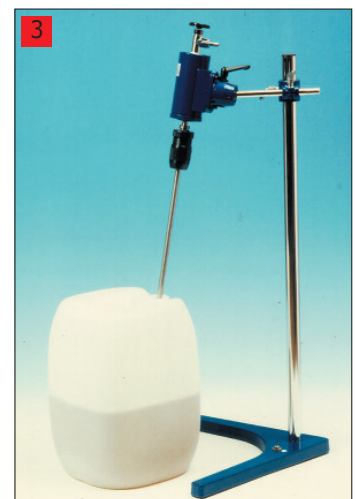


3 Compressed air floor standing stirrers

Basic models include:

- motor type: PM
- plastic-coated housing and stand base
- valve for stepless speed regulation
- tubing nozzle Ø 9 mm
- spherical clamping device with support arm Ø 16 mm , length 200 mm
- floor stand with rod (W=600 mm, H=1000 mm) and cross bosshead
- operating pressure max. 6 bar
- power output 560 W
- air consumption 800 L/min.
- clockwise rotation
- stirring capacity approx 200 L
- all data shown is at 6 bar air pressure

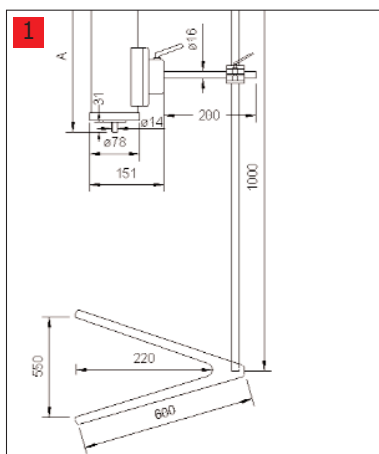
BSR 56 available to Ex II 2G c IIB T5 according with Directive 94/9 EG (ATEX).



Type	No-load speed rpm	Torque Nm	Viscosity	Weight kg	Gear (s)	Code-No.
BSR 56/160-V	2500	3.0	low	13.5	1	40 26446 00316 6
BSR 56/65-V	1300	8.1	medium	14.1	2	40 26446 00318 0
BSR 56/30-V	600	17.5	high	14.1	2	40 26446 00320 3

Compressed air stirrers

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1 Dimensions for BSR 56

Type	A mm	Code-No.
BSR 56/160	265	BSR 56/160
BSR 56/65	302	BSR 56/65
BSR 56/30	302	BSR 56/30



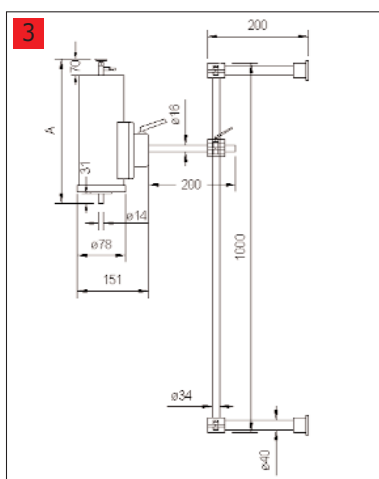
2 Compressed air wall bracket stirrers

Basic models include:

- motor type: PM
- plastic-coated housing
- valve for stepless speed regulation
- tubing nozzle Ø 9 mm
- spherical clamping device with support arm Ø 16 mm, length 200 mm
- wall bracket (H 1000 mm, D 200 mm) and cross bosshead
- operating pressure max. 6 bar
- power output 560 W at 6 bar
- air consumption 800 L/min.
- clockwise rotation
- stirring capacity approx. 500 L
- all data shown is at 6 bar air pressure

WSR 56 available to Ex II 2G c IIB T5 according with Directive 94/9 EG (ATEX).

Type	No-load speed rpm	Torque Nm	Viscosity	Weight kg	Gear (s)	Code-No.
WSR 56/160-V	2500	3.0	low	9.0	1	40 26446 00321 0
WSR 56/65-V	1300	8.0	medium	9.7	2	40 26446 00322 7
WSR 56/30-V	600	17.5	high	9.7	2	40 26446 00323 4



3 Dimensions for WSR 56

Type	A mm	Code-No.
WSR 56/160	265	WSR 56/160
WSR 56/65	302	WSR 56/65
WSR 56/30	302	WSR 56/30

1 Compressed air clamp stirrers

Basic models include:

- motor type: PM
- plastic-coated housing and clamping device
- valve for stepless speed regulation
- tubing nozzle Ø 9 mm
- clamping device-AR, clamping width 45 mm, also suitable for plastic containers
- operating pressure max. 6 bar
- power output 560 W
- air consumption max. 800 L/min.
- clockwise rotation
- stirring capacity approx. 600 L
- all data shown is at 6 bar air pressure

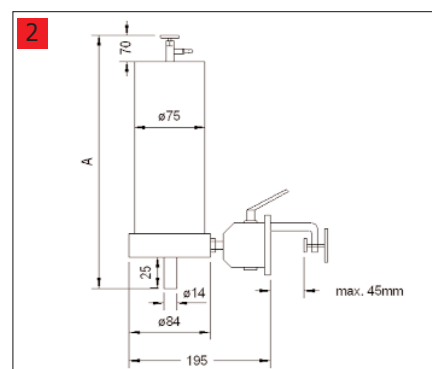
AR 56 available to Ex II 2G c IIB T5 according with Directive 94/9 EG (ATEX).



Type	No-load speed rpm	Torque Nm	Viscosity	Weight kg	Gear (s)	Code-No.
AR 56/160-V	2500	3.0	low	4.7	1	40 26446 00274 9
AR 56/65-V	1300	8.1	medium	5.2	2	40 26446 00281 7
AR 56/30-V	600	17.5	high	5.2	2	40 26446 00293 0

2 Dimensions for AR 56

Type	A mm	Code-No.
AR 56/65	302	AR 56/65
AR 56/30	302	AR 56/30
AR 56/160	265	AR 56/160



3 Compressed air screwthread drum stirrers

Basic models include:

- motor type: PM
- zinc galvanised housing
- valve for stepless speed regulation
- tubing nozzle Ø 9 mm
- screwthread device AFR with connection coupling VK 14 x 14
- operating pressure max. 6 bar
- power output 560 W
- air consumption 800 L/ min.
- clockwise rotation
- stirring capacity approx. 200 L
- all data shown is at 6 bar air pressure

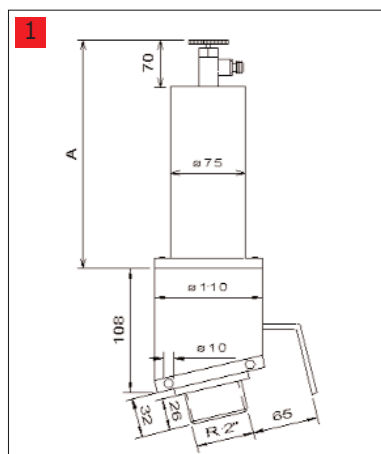
AFR 56 available to Ex II 2G c IIB T5 according with Directive 94/9 EG (ATEX).



Type	No-load speed rpm	Torque Nm	Viscosity	Weight kg	Gear (s)	Code-No.
AFR 56/160-V	2500	3.0	low	7.8	1	40 26446 00282 4
AFR 56/65-V	1300	8.1	medium	8.3	2	40 26446 00294 7
AFR 56/30-V	600	17.5	high	8.3	2	40 26446 00304 3

Compressed air stirrers

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1 Dimensions for AFR 56

Type	A mm	Code-No.
AFR 56/160	230	AFR 56/160
AFR 56/65	267	AFR 56/65
AFR 56/30	267	AFR 56/30



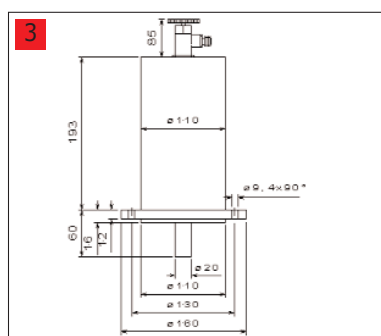
2 Compressed air stirrers with flange

Basic models include:

- motor with circular flange
- valve for stepless speed regulation
- tubing nozzle 9/13 mm
- all-stainless steel housing, grade 1.4305
- operating pressure max. 6 bar
- power output 560 W at 6 bar
- clockwise rotation
- air consumption 800 L/min. at 6 bar
- all data shown is at 6 bar air pressure

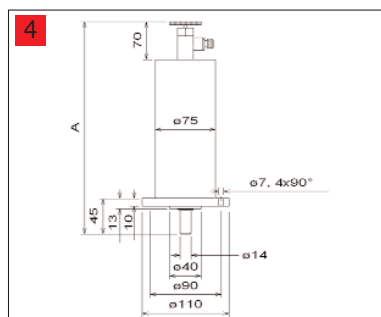
PM 56 available to Ex II 2G c IIB T5 according with Directive 94/9 EG (ATEX).

Type	No-load speed rpm	Torque Nm	Viscosity	Volume max. L	Code-No.
PM 56/160-V	2500	3.0	low	500	6.561 603
PM 56/65-V	1300	8.1	medium	500	6.562 001
PM 56/30-V	600	17.5	high	500	6.563 003



3 4 Dimensions for PM 56

Type	A mm	Code-No.
PM 56/280	265	PM 56/280
PM 56/160	265	PM 56/160
PM 56/65	302	PM 56/65
PM 56/30	302	PM 56/30
PM 110/160		PM 110/160



1 Compressed air stirrers with flange

Basic models include:

- motor with circular flange
- valve for stepless speed regulation
- tubing nozzle 9/13 mm
- plastic-coated housing
- operating pressure max. 6 bar
- clockwise rotation
- all data shown is at 6 bar air pressure

PM 56 - PM 110 available to Ex II 2G c IIB T5 according with Directive 94/9 EG (ATEX).



Type	No-load speed rpm	Torque Nm	Power output Watt	Viscosity	Volume max. L	Air consumption L/min.	Code-No.
PM 110/160	2500	5.5	1100	medium	1000	1500	40 26446 00256 5
PM 56/280	4000	1.8	560	low	500	800	40 26446 00313 5
PM 56/160	2500	3.0	560	low	500	800	40 26446 00311 1
PM 56/65	1300	8.1	560	medium	500	800	40 26446 00312 8
PM 56/30	600	17.5	560	high	500	800	40 26446 00314 2

2 Compressed air stirrers with reduction gear

Basic models include:

- motor with reduction gear
- valve for stepless speed regulation
- tubing nozzle 9/13 mm
- plastic-coated motor housing
- reduction gear aluminium/steel
- operating pressure max. 6 bar
- clockwise rotation
- gear sealing with PTFE retaining ring
- all data shown is at 6 bar air pressure

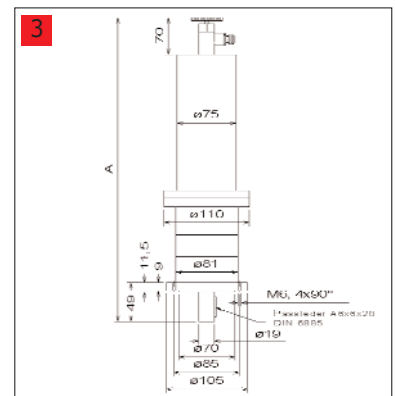
PMG 56 - PMG 110 available to Ex II 2G c IIB T5 according with Directive 94/9 EG (ATEX).



Type	No-load speed rpm	Admissible Torque Nm	Power output Watt	Viscosity	Volume max. L	Air consumption L/min.	Code-No.
PMG 56/200	280	60	560	high	1000	800	40 26446 00242 8
PMG 56/400	500	20	560	high	1000	800	40 26446 00243 5
PMG 56/700	900	20	560	medium	1000	800	40 26446 00244 2
PMG 110/400	670	50	1100	medium	1500	1500	40 26446 00252 7

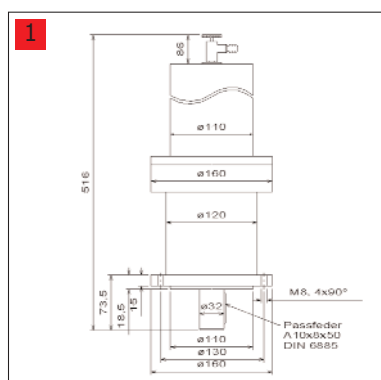
3 Dimensions for PMG 56

Type	A mm	Code-No.
PMG 56/200	406	PMG 56/200
PMG 56/400	384	PMG 56/400
PMG 56/700	384	PMG 56/700



Compressed air stirrers

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1 Dimensions for PMG 110/400

Type	Code-No.
PMG 110/400	PMG 110/400



2 Compressed air hand-held stirrers

Basic models include:

- motor type: PHR
- hammerstone-enamelled aluminium housing
- chuck clamping width 3-12 mm
- side handle
- tubing nozzle Ø 9 mm
- operating pressure max. 6 bar
- power output 440 W
- clockwise rotation
- air consumption max. 650 L/min.
- stirring capacity max. 100 L (water)
- all data shown is at 6 bar air pressure

Type	No-load speed rpm	Torque Nm	Weight kg	Gear (s)	Viscosity	Code-No.
PHR 12/110	1100	11.3	2.4	1	low	40 26446 00262 6
PHR 12/70	700	21.8	2.8	2	medium	40 26446 00267 1
Regulation valve 1/4"						40 26446 00100 1



3 Compressed air drum pump set

for combustible liquids.

Consisting of:

- compressed air motor power output 400 W at 6 bar operating pressure, with switch in the handle and sound absorber, min. operating pressure 3 bar, protection level: Ex II 2G (ATEX)
- Pump tube made of stainless steel (1.4571) nominal size: 1000 mm, seal-less and intrinsically safe to run dry, explosion-proof to Ex II 1/2 G IIB T4 (ATEX), drive shaft made of stainless steel (1.4571)
- 2.5 m solvent tubing DN 25 (1") electrically conductive, cpl. with pre-assembled tubing connectors made of brass
- Brass nozzle with rotatable tubing connection, PTFE seal
- Equipotential bonding cable
- Drum adapter, PP, with 2" threaded connection

Technical data

Delivery height:	20 m Ws (determined with water at 20°C)
Delivery rate:	110 L/min.
Viscosity:	500 mPas (determined with oil)
Temperature:	max. 100°C (of pumping medium)
Weight:	4,4 kg (motor and pump)

Description	Code-No.
Compressed air drum pump set	6.000 291

Accessories for compressed air stirrers

Englisch

1 Speed regulation valve

continuously adjustable.

Description	Type	Code-No.
Speed regulation valve	V	40 26446 00065 3



2 Quick action chuck

To hold stirring rotor shafts: 3-16 mm.
Not to be used in potentially explosive atmospheres.

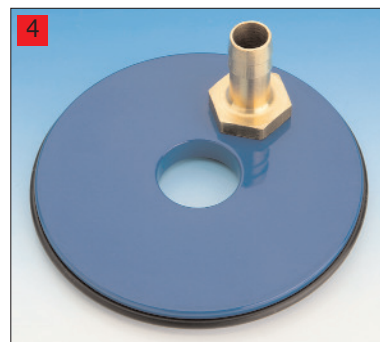
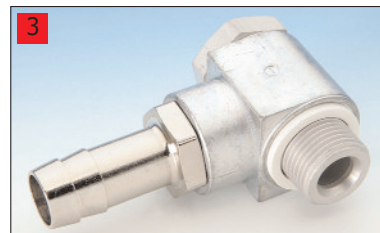
Description	Type	Code-No.
Quick action chuck 3-16 mm	SSF	40 26446 00066 0



3 4 Exhaust air vent

To duct exhaust air away through tubing. Prevents dirt from getting into the stirring medium.

Description	Type	Code-No.
Exhaust air vent	GA-PM	40 26446 00067 7
Exhaust air vent for PM 110/160	GA-110	40 26446 00090 5



5 Finger operated oiler

for manual lubrication of stirrers.

Description	Type	Code-No.
Finger operated oiler	ÖT 38	40 26446 00068 4



Accessories for compressed air stirrers

Englisch



1 Connection coupling

Fixed-diameter connection between motor and stirring rod.
Suitable to be used in potentially explosive atmospheres.

Description	Type	Code-No.
Connection coupling Ø 14 mm	VK 14 x 6	40 26446 00039 4
Connection coupling Ø 14 mm	VK 14 x 8	40 26446 00040 0
Connection coupling Ø 14 mm	VK 14 x 10	40 26446 00041 7
Connection coupling Ø 14 mm	VK 14 x 12	40 26446 00042 4
Connection coupling Ø 14 mm	VK 14 x 14	40 26446 00043 1
Connection coupling Ø 14 mm	VK 14 x 16	40 26446 00044 8
Connection coupling Ø 19 mm	VK 19 x 14	40 26446 00084 4
Connection coupling Ø 19 mm	VK 19 x 16	40 26446 00085 1
Connection coupling Ø 19 mm	VK 19 x 20	40 26446 00080 6
Connection coupling Ø 20 mm	VK 20 x 12	40 26446 00045 5
Connection coupling Ø 20 mm	VK 20 x 14	40 26446 00079 0
Connection coupling Ø 20 mm	VK 20 x 20	40 26446 00082 0
Connection coupling Ø 32 mm	VK 32 x 20	40 26446 00089 9



2 Oil-water-separator

with filter 50 - 75 µm at an input pressure of max. 6 bar.
Flow rate 1800 L/min., threaded connection G3/8".

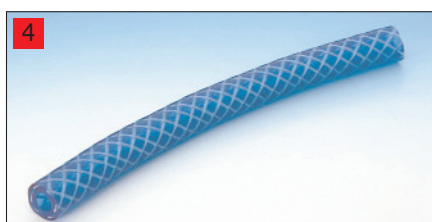
Description	Type	Code-No.
Oil-water-separator	ÖA 38	40 26446 00069 1



3 Clamp holder

with cross bosshead KR 260 for container Ø 40 - 350 mm.

Description	Type	Code-No.
Clamp holder with bosshead KR 260	SP	40 26446 00070 7



4 Compressed air tubing

fabric reinforced, operating pressure max. 10 bar.

Description	Type	Code-No.
Compressed air tubing, i.d. 9 mm	DS-9	40 26446 00062 2
Compressed air tubing, i.d. 13 mm	DS-13	40 26446 00072 1

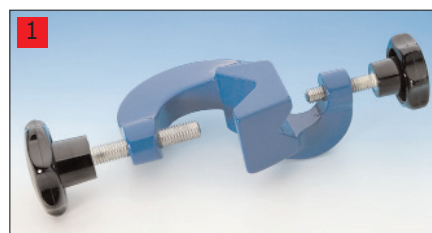
Accessories for compressed air stirrers

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1 Bosshead KR 260

clamping width 11-19 mm/18-36 mm.

Description	Type	Code-No.
Bosshead KR 260	KR 260	40 26446 00101 8



2 Bosshead KR 261

clamping width 16 mm/34 mm.

Description	Type	Code-No.
Bosshead KR 261	KR 261	40 26446 00102 5



3 Snap connection

for quick action coupling 3/8" x NW 7.

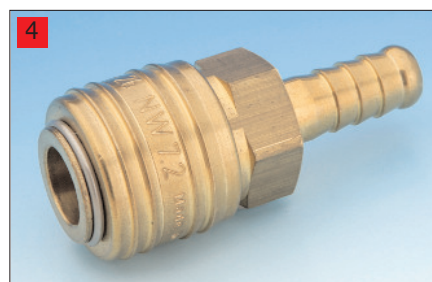
Description	Type	Code-No.
Snap connection	ST 38	40 26446 00073 8



4 Quick action couplings

fast and easy connection between compressed air supply feed and motor.

Description	Type	Code-No.
for tubings 9 mm, NW 7	SK-9	40 26446 00074 5
for tubings 13 mm, NW 7	SK-13	40 26446 00075 2



5 Tubing nozzles

Nickel-plated brass.

Description	Type	Code-No.
Tubing nozzle 3/8" x 9 mm	ST 9	40 26446 00076 9
Tubing nozzle 3/8" x 13 mm	ST-13	40 26446 00077 6



6 Tubing clamp

for compressed air supply tubing with external diameter of 12 - 20 mm.

Description	Type	Code-No.
Tubing clamp	OF-13	40 26446 00078 3



Accessories for compressed air stirrers

English



1 Spherical swivel clamp - A

Spherical clamping device without bosshead.

Description	Type	Code-No.
Fixation	A	40 26446 00099 8



2 Clamping device AR

for clamping stirrers to open containers, easy and flexible positioning of the stirring rod thanks to the spherical swivel clamp.

Description	Type	Code-No.
Clamping device	AR	6.000 330



3 Floor stand

with angled foot, side length 600 mm, rod Ø 34 mm

Rod length mm	Code-No.
1000	40 26446 00086 8
1500	40 26446 00083 7



4 Wall bracket

Rod Ø 34 mm, clearance from wall: 200 mm

Rod length mm	Code-No.
1000	40 26446 00087 5

Stirring rotors for compressed air stirrers

Englisch

1 Stirring rotors for stirrers 560 - 1100 W

stainless steel, mat.no. 1.4305, except where otherwise indicated.

Type	Paddle Ø mm	Shaft Ø mm	Length mm	Material no.	Code-No.
Propeller Stirrer	75	14	850		40 26446 00132 2
Propeller Stirrer	100	14	850		40 26446 00133 9
Propeller Stirrer	125	14	1000		40 26446 00134 6
Propeller Stirrer	150	14	1000		40 26446 00135 3
Propeller Stirrer	150	20	1000		40 26446 00136 0
Propeller Stirrer	175	14	1000		40 26446 00139 1
Propeller Stirrer	175	20	1000		40 26446 00137 7
Propeller Stirrer	200	20	1000		40 26446 00138 4
Propeller Stirrer	200	20	1000	1.4571	40 26446 00140 7
Propeller Stirrer	250	20	1000		40 26446 00144 5
Propeller Stirrer	300	20	1000		40 26446 00143 8



2 Stirring rotors for stirrers 560 - 1100 W

stainless steel mat. no. 1.4305

Type	Paddle Ø mm	Shaft Ø mm	Length mm	Code-No.
Dissolver Stirrer	100	14	850	40 26446 00149 0
Dissolver Stirrer	125	14	850	40 26446 00150 6
Dissolver Stirrer	150	14	1000	40 26446 00151 3
Dissolver Stirrer	200	20	1000	40 26446 00152 0
Dissolver Stirrer	250	20	1000	40 26446 00153 7



3 Stirring rotors for stirrers 560 - 1100 W

stainless steel mat. no. 1.4305

Type	Paddle Ø mm	Shaft Ø mm	Length mm	Material no.	Code-No.
Double blade	120	14	1000	1.4305	40 26446 00145 2
Double blade	140	14	1000	1.4305	40 26446 00146 9
Double blade	120	14	1000	1.4571	40 26446 00147 6
Double blade	140	14	1000	1.4571	40 26446 00148 3



4 Stirring rotors for stirrers 560 - 1100 W

stainless steel mat. no. 1.4305

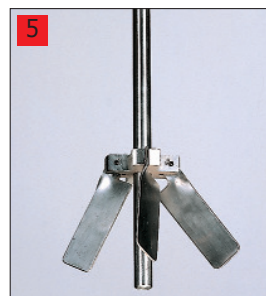
Type	Paddle Ø mm	Shaft Ø mm	Length mm	Code-No.
Centrifugal - 2-blade stirrer	160/30	14	750	40 26446 00154 4



5 Stirring rotors for stirrers 560 - 1100 W

stainless steel mat. no. 1.4305

Type	Paddle Ø mm	Shaft Ø mm	Length mm	Code-No.
Centrifugal - 4 blade stirrer	160/50	14	750	40 26446 00155 1



Stirring system VISCO JET

Englisch



1 2 VISCO JET® stirring system for compressed air lab stirrers

Jack of all trades - through thick and thin

VISCO JET® stirrers homogenise low to high viscosity media using special cup-shaped agitators which create dynamic flow conditions.

Advantages:

- Only one system for all types of mixing
- No aeration
- No foaming
- No temperature rise
- Gentle mixing for delicate samples
- Short mixing times
- minimum power consumption whilst mixing at low speeds

Principle:

The worldwide patented, VISCO JET® stirring system of INOTEC GmbH is based on the so-called "cone-jet" principle.

Turbulent flows are created at the tapered end by acceleration, displacement and deceleration, resulting in vortices.

These flows influence each other and create a novel, dynamic mixing movement.

All VISCO Jet stirrers include the stirring shaft

Paddle Ø mm	Material no.	Shaft length mm	Speed range rpm	For vessels Ø mm	Shaft Ø mm	Code-No.
60	Stainless steel (V4A)1.4571	500	200 - 800	80 - 150	10	6.001 201
80	Stainless steel (V4A)1.4571	500	200 - 700	115 - 200	10	6.001 202
120	Stainless steel (V4A)1.4571	500	120 - 500	170 - 300	10	6.001 203



3 VISCO JET® stirring system for compressed air industrial stirrers

Paddle Ø mm	Material no.	Shaft length mm	Speed range rpm	For vessels Ø mm	Shaft Ø mm	Code-No.
150	Stainless steel (V4A)1.4571	1000	200 - 500	220 - 350	14	6.001 204
170	Stainless steel (V4A)1.4571	1000	60 - 220	300 - 400	14	6.001 205
210	Stainless steel (V4A)1.4571	1000	150 - 400	350 - 500	14	6.001 206
320	Stainless steel (V4A)1.4571	1000	100 - 300	480 - 700	20	6.001 207

Vacuum magnetic stirrer couplings

Englisch

1 2 Drive motor for Buddeberg magnetic stirrer couplings

Advantages:

- All Buddeberg magnetic stirrer couplings with Ø 50 mm can be equipped with the drive motor.
- New or existing magnetic stirrer couplings may easily be equipped with the drive motor without any additional holders.
- Easy adaption using flexible coupling supplied.
- The aluminium housing allows easy handling of the motor.
- The slim design and its installation length of only 215 mm eases applications within limited hood space.
- The controller which is required for operation can be placed outside the hood by means of a 3 m connection cable.

Controller with

- digital speed indicator
- speed adjustment
- left/right rotation switch
- internal/external switch
- external speed setting 0 - 5 Volt DC
- recorder output 0 - 20 mA for effective power and speed
- power supply 110 or 230 VAC, 120 W, 50 - 60 Hz.

Technical data

Drive motor:

Operating voltage: 48 VDC

Power input: 120 W

Motor connection cable: 3 m (included in delivery)

Components required

for operation:

Controller Code-No. 6.004 162

Ext. control cable Code-No. 1.004 092 (optional)

Description	Speed range rpm	Torque Ncm	Code-No.
Drive motor	1250	87	6.004 165
Drive motor	750	150	6.004 164
Controller			6.004 162
External control cable (optional)			1.004 092

3 Vacuum magnetic stirrer couplings with ground joint

This stirrer head is fitted with a permanent magnetic coupling and is available to fit conical joints size NS 29/32 and NS 45/40.

Manufactured in stainless material according to DIN, No. 1.4435 X2 CrNiMo, absolutely gas and vacuum tight as well as resistant to acids and alkaline solutions. Viton-O-ring seals on the cone avoid friction, heat-expansion and even tension in the glass joint. Minimal driving load. Maximum speed 2500 rpm. Sealing a straight-through drive shaft with snap rings is unnecessary, since power is transmitted via magnetic coupling.

Fast and easy replacement of ball bearings. Operating temperature max. 240°C.

Drive shaft with square brass adapter 6 mm.

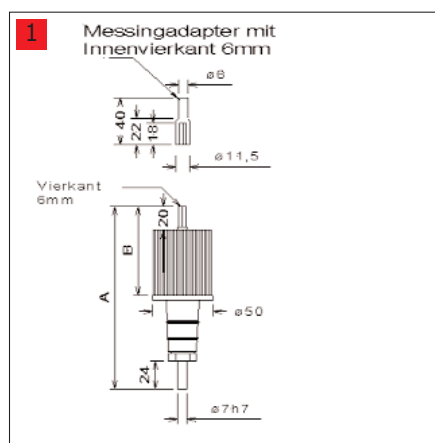
Alternative torque sizes and special materials available on request.

Type	Joint	Torque	Viscosity	Volume	Code-No.
	NS	Ncm	m Pa s	max. ml	
MRK 1/20	29/32	20	1500	2000	40 26446 00157 5
MRK 1/40	29/32	40	2500	4000	40 26446 00158 2
MRK 1/60	29/32	60	3500	6000	40 26446 00159 9
MRK 1/90	29/32	90	4000	10000	40 26446 00160 5
MRK 2/20	45/40	20	1500	2000	40 26446 00156 8
MRK 2/40	45/40	40	2500	4000	40 26446 00161 2
MRK 2/60	45/40	60	3500	6000	40 26446 00162 9
MRK 2/90	45/40	90	4000	10000	40 26446 00163 6



Vacuum magnetic stirrer couplings

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1 Dimensions for MRK with ground joint mat.no. 1.4435

Type	A mm	B mm	Weight kg	Code-No.
MRK 1/20	143	64	0.6	40 26446 00157 5
MRK 1/40	156	76	0.7	40 26446 00158 2
MRK 1/60	177	98	0.8	40 26446 00159 9
MRK 1/90	199	120	1.0	40 26446 00160 5
MRK 2/20	156	64	1.0	40 26446 00156 8
MRK 2/40	169	76	1.1	40 26446 00161 2
MRK 2/60	191	98	1.2	40 26446 00162 9
MRK 2/90	213	120	1.4	40 26446 00163 6



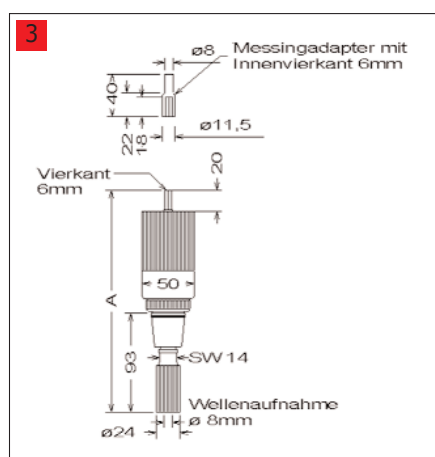
2 PTFE magnetic stirrer couplings with ground joint

This stirrer head is fitted with a permanent magnetic coupling and is available to fit joint size NS 29/32. For NS 45/40 an adapter is offered.

The MRK can be used with aggressive acids and alkaline solutions as well as for PTFE-resistant solvents. The maximum operating temperature is 180°C, the maximum rotation speed is 800 rpm. The PTFE output shaft is fitted with ceramic- and glass-needle bearings, and incorporates a screwclamp to hold Ø 8 mm glass and steel stirring shafts. Output shaft and bearings are also resistant to aggressive media. Drive shaft with 6 mm square brass adapter.



Type	Joint	Torque	Viscosity	Volume	Cone	Socket	Code-No.
	NS	Ncm	m Pa s	max. ml	NS	NS	
MRK 1/20-PTFE	29/32	20	1500	2000			40 26446 00103 2
MRK 1/40-PTFE	29/32	40	2500	4000			40 26446 00104 9
PTFE NS 45/40 adapter					45/40	29/32	40 26446 00164 3



3 Dimensions for MRK with ground joint material: PTFE

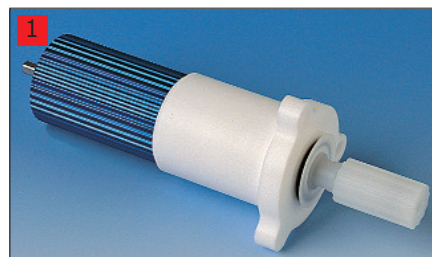
Type	A mm	Weight kg	Code-No.
MRK 1/20	205	0.55	MRK 1/20.1
MRK 1/40	217	0.65	MRK 1/40.1

Vacuum magnetic stirrer couplings

Englisch

1 PTFE magnetic stirrer couplings with flange

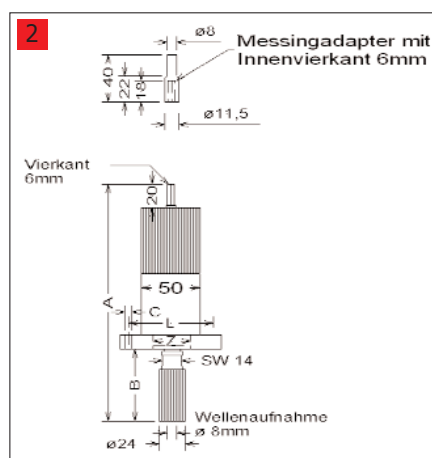
This stirrer head is fitted with a permanent magnetic coupling, suitable for vacuum and pressureless stirring tasks. The MRK can be used for aggressive acids and alkaline solutions as well as for PTFE-resistant solvents. The max. operating temperature is 180°C, the max. rotation speed is 800 rpm. Drive shaft with 6 mm square brass adapter. The output shaft is fitted with ceramic- and glass-needle bearings and incorporates a screwclamp to hold Ø 8 mm glass and steel stirring shafts.



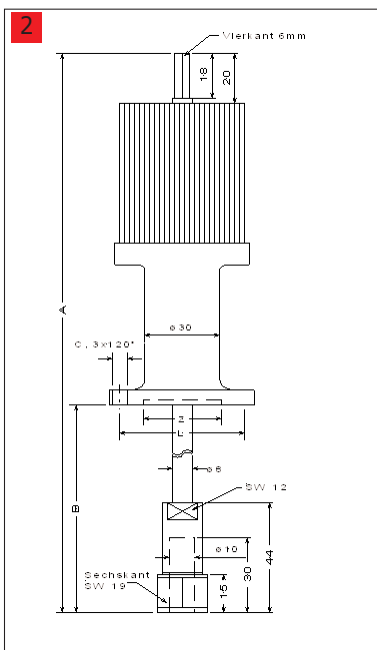
Type	Flange	Torque	Viscosity	Volume	Code-No.
	DN	Ncm	m Pa s	max. ml	
MRK 1/20-F-PTFE	25	20	1500	2000	40 26446 00105 6
MRK 1/60-F-PTFE	25	60	3500	6000	40 26446 00106 3
MRK 1/60-F-PTFE	40	60	3500	6000	40 26446 00107 0

2 Dimensions for PTFE MRK with flange

Type	A	B	Ø - C	Ø - L	Ø - Z	Code-No.
	mm	mm	mm	mm	mm	
MRK 1/20 DN 25	205	61	9	75	24.0	MRK 1/20 DN 25
MRK 1/60 DN 25	236	61	9	75	24.0	MRK 1/60 DN 25
MRK 1/60 DN 40	236	61	9	100	39.5	MRK 1/60 DN 40



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1 Vacuum magnetic stirrer couplings with flange

- available for flange sizes DN 15 - DN 50
- torque up to 90 Ncm
- output shaft fitted with Rulon seal
- Rulon clamping screw to hold Ø 8 mm or Ø 10 mm glass and steel stirring shafts
- particularly suitable for thin film evaporators and glass reactors with Schott flat flange
- drive shaft with 6 mm square brass adapter
- special flange sizes and higher torques available on request
- all metal parts in contact with the medium manufactured in mat.no. 1.4541
- recommended seals on page 31
- special materials available on request

Type	Flange	Torque	Pressure	Viscosity	Volume	Code-No.
	DN	Ncm	max.	m Pa s	max. ml	
MRK 1/20-F	15	20	pressureless	1500	1000	40 26446 00165 0
MRK 1/20-F	15	20	10 bar	1500	1000	40 26446 00171 1
MRK 1/40-F	15	40	pressureless	2500	4000	40 26446 00166 7
MRK 1/40-F	15	40	10 bar	2500	4000	40 26446 00173 5
MRK 1/60-F	15	60	pressureless	3500	5000	40 26446 00169 8
MRK 1/60-F	15	60	10 bar	3500	5000	40 26446 00175 9
MRK 1/20-F	25	20	pressureless	1500	1000	40 26446 00167 4
MRK 1/20-F	25	20	10 bar	1500	1000	40 26446 00172 8
MRK 1/40-F	25	40	pressureless	2500	4000	40 26446 00168 1
MRK 1/40-F	25	40	10 bar	2500	4000	40 26446 00174 2
MRK 1/60-F	25	60	pressureless	3500	5000	40 26446 00170 4
MRK 1/60-F	25	60	10 bar	3500	5000	40 26446 00176 6
MRK 1/90-F	25	90	pressureless	4000	10000	40 26446 00183 4
MRK 1/40-F	40	40	pressureless	2500	4000	40 26446 00177 3
MRK 1/60-F	40	60	pressureless	3500	5000	40 26446 00178 0
MRK 1/90-F	40	90	pressureless	4000	10000	40 26446 00179 7
MRK 1/40-F	50	40	pressureless	2500	4000	40 26446 00180 3
MRK 1/60-F	50	60	pressureless	3500	5000	40 26446 00181 0
MRK 1/90-F	50	90	pressureless	4000	10000	40 26446 00182 7

2 Dimensions for MRK with flange Mat.no. 1.4541

Types MRK 1/20-F to 1/90-F

Type	A	B	Ø - C	Ø - L	Ø - Z	Code-No.
	mm	mm	mm	mm	mm	
MRK 1/20-F	266	137	7.0	50	31.5	40 26446 00165 0
MRK 1/20-F	266	137	9.5	75	45.5	40 26446 00167 4
MRK 1/20-F	266	137	11.0	57	31.5	40 26446 00171 1
MRK 1/20-F	266	137	11.0	76	45.5	40 26446 00172 8
MRK 1/40-F	278	137	7.0	50	31.5	40 26446 00166 7
MRK 1/40-F	278	137	9.5	75	45.5	40 26446 00168 1
MRK 1/40-F	278	137	11.0	57	31.5	40 26446 00173 5
MRK 1/40-F	278	137	11.0	76	45.5	40 26446 00174 2
MRK 1/40-F	280	120	9.5	100	64.0	40 26446 00177 3
MRK 1/40-F	280	120	9.5	110	79.0	40 26446 00180 3
MRK 1/60-F	300	137	7.0	50	31.5	40 26446 00169 8
MRK 1/60-F	300	137	9.5	75	45.5	40 26446 00170 4
MRK 1/60-F	300	137	11.0	57	31.5	40 26446 00175 9
MRK 1/60-F	300	137	11.0	76	45.5	40 26446 00176 6
MRK 1/60-F	302	120	9.5	100	64.0	40 26446 00178 0
MRK 1/60-F	302	120	9.5	110	79.0	40 26446 00181 0
MRK 1/90-F	322	137	9.5	75	45.5	40 26446 00183 4
MRK 1/90-F	324	120	9.5	100	64.0	40 26446 00179 7
MRK 1/90-F	324	120	9.5	110	79.0	40 26446 00182 7

1 PTFE lip seals

These seals are particularly suitable for the use in glass reactors. They seal all-glass flanges as well as glass to metal flanges (e.g. when used with an MRK). The self-centering seals have a Viton O-ring with steel core, and can be used for pressures up to 10 bar. They are available in two versions, with 1 collar which is recommended for the use with magnetic stirrer couplings, or with 2 collars for sealing two glass flanges.

Flange DN	1 Collar	2 Collars	Code-No.
15		1.280.171	40 26446 00004 2
25		1.280.172	40 26446 00005 9
40		1.280.173	40 26446 00006 6
50		1.280.174	40 26446 00007 3
80		1.280.175	40 26446 00008 0
100		1.280.176	40 26446 00009 7
150		1.280.177	40 26446 00010 3
200		1.280.178	40 26446 00011 0
15	1.290.171		40 26446 00012 7
25	1.290.172		40 26446 00013 4
40	1.290.173		40 26446 00014 1
50	1.290.174		40 26446 00015 8
80	1.290.175		40 26446 00016 5
100	1.290.176		40 26446 00017 2
150	1.290.177		40 26446 00018 9
200	1.290.178		40 26446 00019 6



2 Magnetic stirrer couplings with thread type Mini 100 for autoclaves and reactors

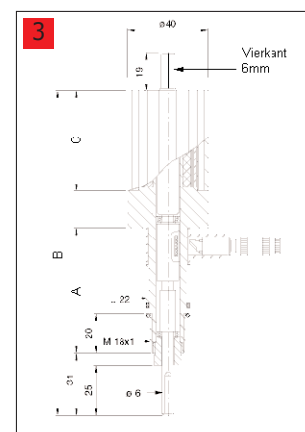
The Mini 100 magnetic stirrer couplings with a thread connection M18 x 1mm can easily be screwed onto an autoclave lid. Sealed to the autoclave lid with an O-ring or metal to metal (cutting ring). The output shaft runs in ball bearings. The maximum speed is 2500 rpm. The maximum operating temperature is 200°C. Reed contact and speed sensor at the output shaft is fitted as standard. Special designs and materials available on request. Drive shaft with 6 mm square brass adapter.



Type	Viscosity	Material	Torque	Pressure	Volume	Code-No.
	m Pa s	no.	Ncm	max. bar	max. ml	
Mini 100-20	1500	1.4435	20	300	1000	40 26446 00184 1
Mini 100-50	3000	1.4435	50	300	5000	40 26446 00189 6
Mini 100-20	1500	1.4980	20	700	1000	40 26446 00185 8
Mini 100-50	3000	1.4980	50	700	5000	40 26446 00187 2

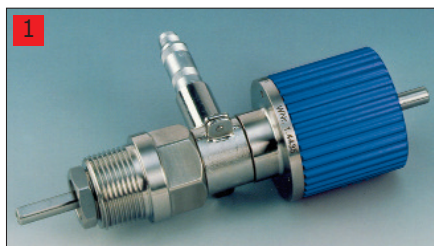
3 Dimensions for MRK MINI 100

Type	A	B	C	Code-No.
	mm	mm	mm	
MINI 100-20	62.5	163	50	40 26446 00184 1
MINI 100-50	62.5	181	68	40 26446 00189 6
MINI 100-20	62.5	163	50	40 26446 00185 8
MINI 100-50	62.5	181	68	40 26446 00187 2



Magnetic stirrer couplings

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1 2 Magnetic stirrer couplings with thread for autoclaves and reactors

These stirrer couplings with base screwthread M30 x 2 can easily be screwed onto all kinds of reaction vessels. Manufactured according to DIN in grade 1.4435 or 1.4980 stainless steel.

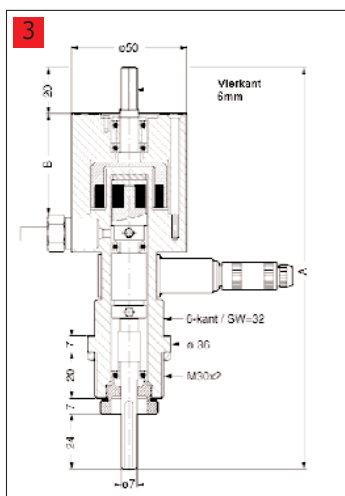
Maximum operating pressure depending on the type: 200 or 700 bar respectively. Maximum operating temperature 300°C. A reed contact and speed sensor at the output shaft is fitted as standard.

The MRK 30 - 37 series additionally features a valve to purge the inner parts of the output shaft that can also be used for gas supply.

Drive shaft with 6 mm square brass adapter.

Special sizes or materials available on request.

Type	Torque Ncm	Pressure max. bar	Viscosity m Pa s	Volume max. ml	Material No.	Code-No.
MRK 10/20	20	200	1500	1000	1.4435	40 26446 00190 2
MRK 11/20	20	700	1500	1000	1.4980	40 26446 00191 9
MRK 12/40	40	200	2500	4000	1.4435	40 26446 00192 6
MRK 13/40	40	700	2500	4000	1.4980	40 26446 00193 3
MRK 14/60	60	200	3500	5000	1.4435	40 26446 00194 0
MRK 15/60	60	700	3500	5000	1.4980	40 26446 00196 4
MRK 16/90	90	200	4000	10000	1.4435	40 26446 00198 8
MRK 17/90	90	700	4000	10000	1.4980	40 26446 00199 5
MRK 30/20	20	200	1500	1000	1.4435	40 26446 00203 9
MRK 31/20	20	700	1500	1000	1.4980	40 26446 00204 6
MRK 32/40	40	200	2500	4000	1.4435	40 26446 00205 3
MRK 33/40	40	700	2500	4000	1.4980	40 26446 00206 0
MRK 34/60	60	200	3500	5000	1.4435	40 26446 00207 7
MRK 35/60	60	700	3500	5000	1.4980	40 26446 00208 4
MRK 36/90	90	200	4000	10000	1.4435	40 26446 00209 1
MRK 37/90	90	700	4000	10000	1.4980	40 26446 00210 7



3 Dimensions for MRK with thread

Type	A mm	B mm	Code-No.
MRK 10/11	172	44	40 26446 00190 2 / 40 26446 00191 9
MRK 12/13	184	56	40 26446 00192 6 / 40 26446 00193 3
MRK 14/15	205	77	40 26446 00194 0 / 40 26446 00196 4
MRK 16/17	228	100	40 26446 00198 8 / 40 26446 00199 5
MRK 30/31	172	44	40 26446 00203 9 / 40 26446 00204 6
MRK 32/33	184	56	40 26446 00205 3 / 40 26446 00206 0
MRK 34/35	205	77	40 26446 00207 7 / 40 26446 00208 4
MRK 36/37	228	100	40 26446 00209 1 / 40 26446 00210 7

1 MRK magnetic stirrer drives for pilot plant and production scale applications Type series MRK 40 - 47

Magnetic stirrer drives of the series MRK 40-47 are an ideal alternative to upgrade or modernise existing high-pressure autoclaves. MRK 40 - 47 with threaded connection M30x2 mm can easily be screwed onto autoclave lids. As sealing to the autoclave lid we recommend a metal cutting ring, suitable up to 300°C. All parts that come into contact with the medium are made from stainless steel. The line can be extended with alternative versions in Titanium, Tantalum or various Hastelloy materials. A speed sensor is fitted at the output shaft as standard. The MRK can easily be upgraded with the digital speed indicator DZA-2B, or for motor versions .1, the DZA-3 which additionally features a frequency converter for motor control.

Magnetic stirrer drives made from stainless steel are fitted with ball bearings on the output shaft. Hastelloy and Titanium models are provided with slide bearings. The shaft can be universally used with ball bearings and slide bearings.

Drive versions

Two different drive types with a nominal power output of 120 W are available. We offer an AC motor, either controlled by a frequency converter, or by a "Planetroll" gear system, as standard, in explosion-proof design.

In motor **version .1**, the speed of the output shaft is set at the potentiometer on the control unit, ranging from 200 to 2000 rpm (other speeds selectable).

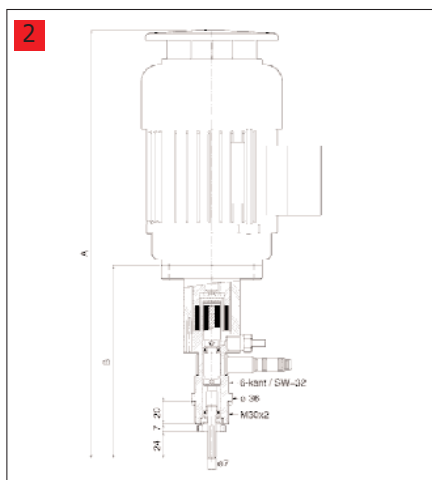
In **version .2** the speed can be continuously regulated manually from 0 to 1150 rpm. Supply reg.: 3 x 240/400 V, 50 Hz.

Type	Material	Pressure	Torque	Volume	Code-No.
	No.	max. bar	Ncm	max. ml	
MRK 40.1	1.4435	200	20	1000	40 26446 00215 2
MRK 41.1	1.4980	700	20	1000	40 26446 00217 6
MRK 42.1	1.4435	200	40	2000	40 26446 00219 0
MRK 43.1	1.4980	700	40	2000	40 26446 00221 3
MRK 44.1	1.4435	200	60	5000	40 26446 00223 7
MRK 45.1	1.4980	700	60	5000	40 26446 00225 1
MRK 46.1	1.4435	200	90	10000	40 26446 00227 5
MRK 47.1	1.4980	700	90	10000	40 26446 00229 9
MRK 40.2	1.4435	200	20	1000	40 26446 00214 5
MRK 41.2	1.4980	700	20	1000	40 26446 00216 9
MRK 42.2	1.4435	200	40	2000	40 26446 00218 3
MRK 43.2	1.4980	700	40	2000	40 26446 00220 6
MRK 44.2	1.4435	200	60	5000	40 26446 00222 0
MRK 45.2	1.4980	700	60	5000	40 26446 00224 4
MRK 46.2	1.4435	200	90	10000	40 26446 00226 8
MRK 47.2	1.4980	700	90	10000	40 26446 00228 2



2 Dimensions for MRK 40-47

Type	A	B	Code-No.
	mm	mm	
MRK 40.1	370	160	MRK 40.1
MRK 40.2	482	157	MRK 40.2
MRK 41.1	370	160	MRK 41.1
MRK 41.2	482	157	MRK 41.2
MRK 42.1	382	172	MRK 42.1
MRK 42.2	494	169	MRK 42.2
MRK 43.1	382	172	MRK 43.1
MRK 43.2	494	169	MRK 43.2
MRK 44.1	394	184	MRK 44.1
MRK 44.2	506	181	MRK 44.2
MRK 45.1	394	184	MRK 45.1
MRK 45.2	506	181	MRK 45.2
MRK 46.1	406	196	MRK 46.1
MRK 46.2	518	193	MRK 46.2
MRK 47.1	406	196	MRK 47.1
MRK 47.2	518	193	MRK 47.2



Magnetic stirrer drives

Englisch



1 MRK magnetic stirrer drives for pilot plant and production scale applications Type series MRK 50 - 55

Magnetic stirrer drives of the series MRK 50 - 55 feature optimised performance, compact design and high torques from 2 - 8 Nm, upgradable to 40 Nm. The MRK 50 - 55 series is easily fitted to the autoclave lid by means of a flange ring. The connection dimensions differ in the ball bearing and slide bearing versions. The sealing is metal to metal. The shaft length (dimension X) is individually adjusted according to the thickness of the reaction vessel lid. All parts coming into contact with the medium are made of stainless steel, grade 1.4435 for pressures up to 300 bar, grade 1.4980 for pressures up to 700 bar. Hastelloy, Titanium, Monel metals, etc. are available on request. A speed sensor is fitted at the output shaft as standard. The ideal upgrade is the digital DZA-2B speed indicator for keeping constant track of the rotation speed. Control units are available, equipped with digital speed indicator, frequency converter and potentiometer. Magnetic stirrer drives made from stainless steel are fitted with ball bearings on the output shaft. Hastelloy and Titanium models are provided with slide bearings. Ceramic friction bearings are available on request.

Drive versions

Two basic drive systems are available. We offer an AC motor controlled either by a frequency converter or by a "Planetroll" gear system, as standard, in explosion-proof design.

In motor **version .1**, the speed of the output shaft is set at the potentiometer on the control unit, ranging from 200 to 1200 rpm (other speeds selectable).

In **version .2** the speed can be continuously regulated manually.

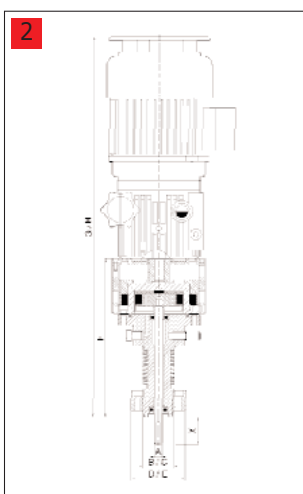
Motors are available with output speeds of 0 to 550 rpm or 0 to 1150 rpm.

Supply reg.: 3 x 240

Type	Material	Torque	kW	Code-No.
	No.	Ncm		
MRK 50.1	1.4435	2	0.25	6.050 010.
MRK 51.1	1.4980	2	0.25	40 26446 00232 9
MRK 52.1	1.4435	5	0.37	40 26446 00234 3
MRK 53.1	1.4980	5	0.37	40 26446 00236 7
MRK 54.1	1.4435	8	1.1	40 26446 00238 1
MRK 55.1	1.4980	8	1.1	40 26446 00240 4
MRK 50.2	1.4435	2	0.25	40 26446 00231 2
MRK 51.2	1.4980	2	0.25	40 26446 00233 6
MRK 52.2	1.4435	5	0.37	40 26446 00235 0
MRK 53.2	1.4980	5	0.37	40 26446 00237 4
MRK 54.2	1.4435	8	1.1	40 26446 00239 8
MRK 55.2	1.4980	8	1.1	40 26446 00241 1

2 Dimensions for MRK 50-55

Type	Ø - A	B	C	Ø - D	Ø - E	F	G	H
	mm	ball bearings	slide bearings	ball bearings	slide bearings	mm	AC mm	Planetroll mm
50.1/.2	12	M45 x 1,5	M 33	80 mm	76 mm	232	462	597
51.1/.2	12	M45 x 1,5	M 33	80 mm	76 mm	232	462	597
52.1/.2	20	M60 x 2		120 mm		344	574	709
53.1/.2	20	M60 x 2		120 mm		344	574	709
54.1/.2	20	M60 x 2		120 mm		357	587	857
55.1/.2	20	M60 x 2		120 mm		357	587	857



1 PMRK-vacuum magnetic stirrer couplings made of super PTFE compound

Compact designed, slim and space-saving, yet powerful magnetic stirrer couplings for all stirring tasks. The PMRK series are available with ground joint connection or flange as standard, screwthreaded versions and versions including motor drive are available on request. All parts which come into contact with the medium are made of super PTFE compound.

Material characteristics:

Exceptional mechanical strength, high wear resistance, excellent temperature and chemical resistance (similar to PTFE, ask for our resistance list) .

Operating temperature range: -50°C to +250°C

Fields of application:

Suitable for all kinds of stirring vessels, under vacuum, in glass flasks, reaction vessels, thin film evaporators, rotary band columns, etc.

Not to be used under pressure.

Technical data:

Length 130 mm, Ø 35 mm, output shaft with clamping screw to fit glass or steel shafts of Ø 8 mm or Ø 10 mm, 6 mm square drive shaft, max. speed 1200 rpm.

Type	Torque Ncm	NS or flange size	Fits stirring shafts of Ø	Code-No.
PMRK-8-100-NS 29/32	100	NS 29/32	8 mm	1.004 204
PMRK-8-200-NS 29/32	200	NS 29/32	8 mm	1.004 205
PMRK-10-100-NS 29/32	100	NS 29/32	10 mm	1.004 224
PMRK-10-200-NS 29/32	200	NS 29/32	10 mm	1.004 225
PMRK-8-100-NS 45/40	100	NS 45/40	8 mm	1.004 206
PMRK-8-200-NS 45/40	200	NS 45/40	8 mm	1.004 207
PMRK-10-100-NS 45/40	100	NS 45/40	10 mm	1.004 226
PMRK-10-200-NS 45/40	200	NS 45/40	10 mm	1.004 227
PMRK-8-100-DN 15	100	DN 15	8 mm	1.004 212
PMRK-10-100-DN 15	100	DN 15	10 mm	1.004 232
PMRK-8-100-DN 25	100	DN 25	8 mm	1.004 214
PMRK-8-200-DN 25	200	DN 25	8 mm	1.004 215
PMRK-10-100-DN 25	100	DN 25	10 mm	1.004 234
PMRK-10-200-DN 25	200	DN 25	10 mm	1.004 235
PMRK-8-200-DN 40	200	DN 40	8 mm	1.004 217
PMRK-10-200-DN 40	200	DN 40	10 mm	1.004 237



2 Safety transport containers made of stainless steel

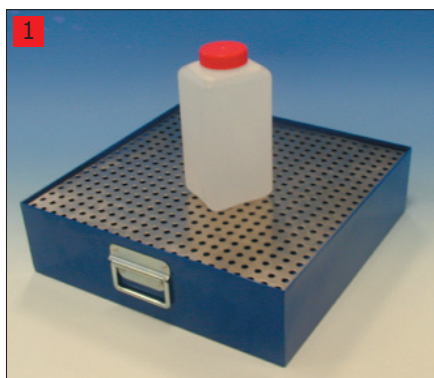
These safety containers proved best for transport of aggressive and combustible liquids in glass bottles of 2 L or 5 L.

Advantages:

- Glass bottles can be filled and emptied within the safety containers
- Absolute safety for the glass bottle during transport
- Handy and comfortable carrying handle even when carried for extended periods
- Polished stainless steel finish provides protection against heat and corrosive agents
- Carrying handle fastening on the underside of the container for secure handling
- Easy and quick fastening of container top on underside by two snap fasteners
- Large base area ensures stability and safety

For bottles	Code-No.
L	
2	40 26446 00327 2
5	40 26446 00328 9





1 Fire protection trough, self-extinguishing

Safety trough for laboratory applications, colleges and schools. Supplied with aluminium honeycomb block, perforated top plate and 2 L sealing liquid (paraffin oil). For flasks/containers up to 10 L.

Operation:

Before use, the safety trough needs to be filled with 2 L sealing liquid (paraffin oil included in delivery) until the honeycomb cells are immersed in 10 mm liquid.

Mode of effect:

The honeycomb cells filled with sealing liquid collect combustible and non-combustible liquid. The combustible liquid is extinguished due to oxygen starvation. In addition, oxygen supply is prevented by the perforated top plate which also provides protection against injuries from the honeycomb cells of the block. The honeycomb block can easily be removed to dispose of the liquid and clean the trough.

Important information!

The safety trough is not to be used with aluminium organic, or haloorganic compounds.

Technical data:

Trough: 445 x 445 mm, height 130 mm, made of aluminium sheet, 2 mm thick

Aluminium honeycomb block: 415 x 415 mm, height 110 mm, honeycomb cells 9.5 mm, removable

Perforated top plate: made of aluminium, 1.5 mm thick, holes 10 mm

Weight: 5.8 kg, including paraffin oil

Fire tests with

1.5 L petroleum ether: flame extinguished in 20 seconds

1.5 L cyclohexane: flame extinguished in 15 seconds

1.5 L n-heptane: flame extinguished in 10 seconds

Type	Code-No.
Fire protection trough	40 26446 00326 5
Paraffin oil 2 L (replacement)	40 26446 00142 1



2 Laboratory safety shield

- with impact-resistant Makrolon® panels
- mounted in a metal frame with stable feet to provide secure stand
- centre panel adjustable to four heights
- with folding side panels (W 220 mm)
- additional top section available (H 250 mm)
- Makrolon® panels 6 mm thick

Description	Width mm	Height mm	Width opened mm	Weight kg	Code-No.
Safety shield	660	700	950	9.9	40 26446 00091 2
Top section	660	250	950	3.65	40 26446 00092 9

1 Heating bath liquid, BASF

Use:

BASF heating bath liquid can be used continuously as a heating medium up to approx. 170°C. Higher temperatures (below flash point) are possible, but will result in rapid darkening.

The low pour point allows the bath liquid also to be used as a cooling medium. Mixtures with 10% to 30% water have proved best for this.

The crucial advantages of BASF heating bath liquid compared to the oils or other organic liquid mainly used are:

- Accidental spillage of water into the bath does not lead to dangerous spitting at temperatures over 100°C, as the water dissolves in the heating bath liquid and subsequently evaporates safely
- BASF heating bath liquid can easily be rinsed away with water which eases cleaning of laboratory equipment, e.g. distillation flasks, and also bench or floor if the bath liquid is accidentally spilled.
- BASF heating bath liquid does not foam when mixed with water.

Viscosity on addition of water:

BASF heating bath liquid is quite viscous at ambient or low temperatures, and therefore sometimes difficult to dispense. The addition of 10-20% water reduces the viscosity and enables easier handling. If the mixture is then heated to 100°C, the water evaporates without boiling. Further heating is only shortly delayed by this. Before next heating, water can be added again.

Water solubility: BASF heating bath liquid can be mixed with water at any ratio. The hardness of the water has no effect on the bath liquid.

Chem. character: Modified, polyvalent, aliphatic alcohol.

Appearance: Clear, colourless or lightly coloured liquid.

Storage time unlimited at present knowledge: When stored for long periods the product may become darker. This does not affect the performance of the product.

Density: approx. 1.15 g/cm³

Flashpoint to DIN 51758 to DIN 51794 > 200°C approx. 255°C

Description	Code-No.
Heating bath liquid, BASF, 5 L	2.035 998



2 BUDDE - joint grease

- For all glass joints.
- Transparent, vacuum tight, water washable and water soluble.
- Maintains practically the consistency between -30°C and +200°C, non-solidifying.
- Compatible with most elastomers, biodegradable.

Tube of 80 g.

Description	Code-No.
BUDDE - joint grease	40 26446 00329 6



About us

Gebr. Buddeberg was founded in 1887 by the brothers Fritz and Carl Buddeberg, who opened a small optician's shop in Mannheim.

Since then, the focus of the business has developed into laboratory equipment supply and manufacture



Under the ownership of Hubert Bohlender since 1983, the company now employs over 30 staff and has an annual turnover exceeding 9 million euros.

In October 2005 Gebr. Buddeberg celebrated its 118th anniversary by organising its respected, triennial laboratory exhibition "**BUDE**", locally in Mannheim

As a modern service provider for laboratory supply, Buddeberg's policy is to ensure the highest quality of products and services, advice and consultancy, rapid delivery times and a "can-do" attitude to customer support.



Buddeberg products and installations can be found in many laboratories, operating within a broad range of analytical and production fields.



partner of the



As shareholders in **LLG** (Lab Logistics Group) and therefore backed by an extensive stock and warehousing facility, Buddeberg can react very quickly and effectively to its customer's requirements.



Buddeberg has held **DIN ISO 9002** certification since July 1997.

Annual re-assessment and certification to **ISO 9001** not only confirms the consistent quality standard of Buddeberg's operations but also guarantees constant improvement.



The **Buddeberg** product range is being continuously upgraded and expanded by incorporating customers wishes and enquiries.

As you have discovered in the PLR catalogue, our well-known compressed air stirrers and magnetic stirrer couplings are only a part of our manufacturing range.

Please contact us. We would be pleased to inform you on the variety of our products we can make.



Do you need laboratory equipment?

We can provide the complete range of products for your laboratory. Ask for our General Catalogue on laboratory equipment and instrumentation or visit our homepage:

www.buddeberg.de



There you will find our General Catalogue and PLR catalogue with an online ordering system, as well as information on new products and special offers.

Though our catalogues cover nearly all the products needed in the modern laboratory, still we can offer a much broader product range still. Should you require an article you cannot find in our catalogues, please feel free to contact us with any enquiries for additional items.

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Lieferprogramm

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Druckluft-Rührwerke

Druckluft-Magnetrührer

Druckluft-Handrührer

Magnetrührantriebe

Magnetrührverschlüsse

Rührwerkzeuge

PTFE-Flanschdichtungen

Abmessungen

Manufacturing Range

Compressed air **laboratory** stirrers

Compressed air **industrial** stirrers

Compressed air magnetic stirrers

Compressed air hand-held stirrers

Magnetic stirrer drives

Magnetic stirrer **couplings**

Stirring paddles

PTFE lip seals

Dimensions

Ihr Fachhändler



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