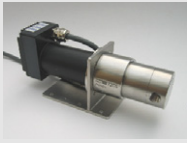
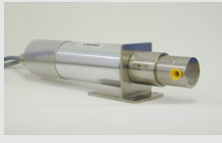
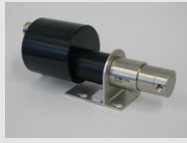



High performance series Drive and control

Drive version	xx05	xx06	xx08	xx09
				
Characteristics	standard motor with integrated microcontroller	high power motor for continuous delivery	high power motor for continuous and discrete delivery	Ex-certification according to ATEX
mzr-2900	●	–	–	●
mzr-4600	●	–	–	●
mzr-7200	●	●	●	●
Reduction gear	o	–	–	–
Multiplexer board module	●	–	–	●
Console drive module	●	–	–	●
Motor	brushless DC-servomotor	brushless DC-motor	brushless DC-servomotor	Explosion-proof DC-motor with brushes
Control	integrated optional: mzr-S05 E	external controller S-HV	external controller S-HV, S-HP	external controller S-HD, mzr-S05 ES
Differential pressure (with watery liquids)	max. 0 – 40 bar (max. 80 bar with reduction gear)	max. 0 – 80 bar	max. 0 – 80 bar	max. 0 – 20 bar
Voltage supply	24 V DC	48 V DC	24 V DC	24 V DC
Output power	44 W	200 W	201 W	54 W
Speed control for continuous dosage	●	●	●	●
Position control for discrete dosage	●	–	●	●
Speed range	1 – 6000 rpm	500 – 6000 rpm	1 – 6000 rpm	1 – 4700 rpm
Low speed	●	o	●	●
Increase of diff. pressure	o	●	●	o
High viscosity	o	●	●	o

Legend: ● available / applicable o partly available / partly applicable – not available / not applicable

A choice of additional drives and control units, available in addition to the standard version xx05, enables to adapt the performance characteristics of the high performance pump series. The drive versions xx06 and xx08

are equipped with high-power motors. These drives have been selected for applications which require high differential pressures which may exceed 80 bar or when the delivered or dispensed liquids feature high viscosity.

The drive version xx09 is equipped with an explosion-proof DC-motor according to ATEX. This version can be used for applications in chemical industry.

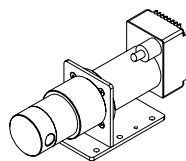
Contact

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Item No. 10 01 01 05 (2905)
Item No. 10 02 01 05 (4605)
Item No. 10 03 01 06 (7205)

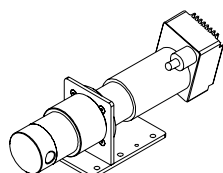


Drive xx05

Standard drive version for continuous delivery and discrete dosage. This drive is available for the micro annular gear pump heads mzr-2900, mzr-4600 and mzr-7200.

- brushless DC-servomotor with integrated microcontroller
 - speed and position control for continuous delivery and discrete dosage
 - together with pump head mzr-7200 a max. differential pressure of 40 bar may be achieved
 - speed range 1 – 6000 rpm
 - nominal voltage 24 V, max. output power 70 W, max. continuous torque 50 mNm
- For further details please refer to individual product sheet.

Item No. 00 09 01 01 (4605)
Item No. 00 09 01 02 (7205)



Reduction gear

High output torque for continuous delivery and discrete dosage of high viscosity liquids or for differential pressures above 40 bar. The reduction gear is available only for standard drive version xx05 in combination with pump heads mzr-4600 and mzr-7200.

- reduction gear ratio 3.71:1
- recommended motor input speed 0 – 3000 rpm
- output speed range ca. 0 – 800 rpm (corresponding flow rate 9.6 ml/min with pump head mzr-4600 and 38 ml/min with pump head mzr-7200)

Item No. 66 01 01 01



Multiplexer board module

To control additional pumps (max. up to 255 pumps) via one single RS-232 interface (daisy chain). The multiplexer board module is available for all pump heads of the high performance series in combination with the drive version xx05.

- printed circuit board (PCB), dimensions 64 x 45 mm
- daisy-chain for the RS-232 interface
- one additional null-modem cable is included

Item No. 67 05 02 00 (2900, 4600)
(pump head not included)
Item No. 67 05 02 01 (7205)
(pump not included)



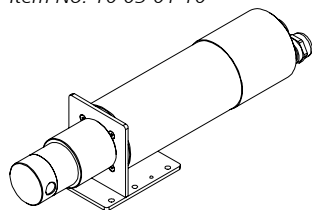
mzr-S05 mzr-S05 E

Console drive module

The console drive module is available for all pump heads of the high performance series in combination with the standard drive xx05.

- compact diecasted small aluminum chassis, powder coated
- local/remote operation via front control panel or rear external connectors
- fine tuning potentiometer for manual flow control
- Windows® based software for all operating parameters
- digital display for speed and duration of operation
- interfaces: serial RS-232 and analog voltage 0 – 10 V
- mzr-S05 with internal drive xx05 for pump heads mzr-2900, mzr-4600
- mzr-S05 E for external connection of pump mzr-7205

Item No. 10 03 01 10

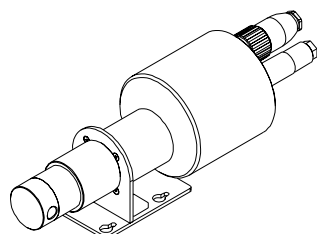


Drive xx06

High-power brushless motor for continuous delivery of high viscosity liquids or for pressures exceeding 40 bar. This drive version is available only for the pump head mzr-7200.

- brushless DC-Motor, output power approx. 200 W, max. continuous torque 420 mNm
 - achievable differential pressure up to 80 bar for liquids with water-like viscosity, for liquids featuring higher viscosity higher differential pressures may be obtained
 - speed range at 48 V DC: 500 – 6000 rpm (at 24 V DC up to max. 3000 rpm)
- For continuous delivery the speed controller S-HV is available.

Item No. 10 03 01 12

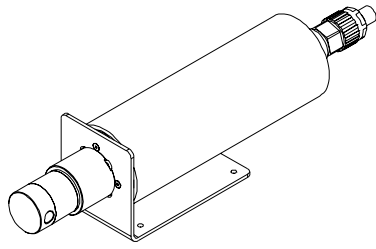


Drive xx08

High-power brushless motor for continuous delivery and discrete dosage of high viscosity liquids and for pressures above 40 bar. This drive version is available only for the pump head mzr-7200.

- powerful, brushless DC-servomotor for continuous delivery and discrete dosage tasks.
 - speed range 1 – 6000 rpm at 24 V DC. Due to the integrated encoder with 500 counts per turn a high speed constancy even at lower speeds can be achieved.
 - differential pressure of up to 80 bar can be achieved for liquids having water-like viscosity, for liquids featuring higher viscosity, higher differential pressure can be obtained
 - nominal voltage 36 V DC, output power 201 W, max. continuous torque 192 mNm
- For continuous delivery the speed controller S-HV is available. For discrete dosage the speed and position controller S-HP is needed.

Item No. 10 03 01 23 (2909)
Item No. 10 03 01 24 (4609)
Item No. 10 03 01 31 (7209)



Drive xx09

Explosion-proof motor according to ATEX for continuous and discrete delivery tasks. This drive version is available for the pump heads mzr-2900, mzr-4600 and mzr-7200.

- explosion-proof DC-motor with brushes
- Ex-certification: CE Ex II 2 G c T5 X (mzr-2900, mzr-4600), CE Ex II 2 G c T5 X (mzr-7200)
- installation place: Ex-area zone 1, 2
- motor output power 53 W, max. continuous torque up to 77 mNm
- speed range 1 – 4700 rpm at 24 V DC
- encoder: 500 counts per turn, type HEDL 5540
- cable length 5 m, optional 10 m

For further details please refer to individual product information sheet.

For continuous delivery the speed controller S-KD is available. For continuous delivery and discrete dosage the speed and position controller S-HP is recommended.

Item No. 92 00 05 39



Controller S-KD

Controller with speed control for continuous delivery tasks in combination with the xx09 drive. The max. permissible motor cable length is 5 m.

- 4-Q amplifier PWM with closed metal housing
- supply voltage 24 V DC, max. continuous output current 2 A
- speed control range 200 – 4700 rpm
- 1 analog input (± 10 V, ± 3.9 V configurable with jumpers)
- 1 digital input (»Enable«)
- 1 digital output (»Ready«)

Item No. 92 00 09 98



Controller S-HD

Controller with speed and position control for continuous delivery and discrete dosage in combination with drive version xx09. The max. permissible cable length is 5 m.

- 4-Q amplifier PWM
- supply voltage 24 V DC, max. continuous output current 2 A (programmed value)
- speed control range 1 – 4700 rpm
- 1 serial interface RS-232
- 1 analog input 0 – 10 V
- 3 digital inputs 24 V DC
- 1 digital output 24 V DC

Item No. 66 03 01 01



Controller S-HV

Controller with speed control for continuous delivery in combination with drive versions xx06 and xx08.

- 4-Q amplifier PWM
- closed metal housing
- supply voltage 11–70 V DC, max. continuous output current 10 A
- speed control range 1 – 6000 rpm
- internal or optional external potentiometer for speed control

Item No. 66.04 01 03



Controller S-HP

Controller with speed and position control for continuous delivery and discrete dosage. Available for drive versions xx06 and xx08.

- 4-Q amplifier PWM
- closed metal housing
- supply voltage 11–70 V DC, max. continuous output current 10 A
- speed control range 1 – 6000 rpm
- standard interfaces: RS-232, CAN
- 4 digital outputs 24 V DC
- 4 analog outputs 24 V DC

Subject to technical changes without notice.
Additional drives and controls on request.