DS_MME800_EN_Rev.A

Ontrac Intelligence Electric Actuator

Series MME 800

Electrical Multi-Turn Actuators for Modulating Control S4 - 25% / 1200 c/h Torque 30 ... 1200 Nm Speed 7 ... 35 min^{-1}

Main Components

- Robust, oil lubricated worm gear
- Three-phase asynchronous motor
- Microprocessor controlled frequency converter integrated in actuator
- Integrated local control panel with LC display
- Flanges acc. to ISO 5210 or DIN 3210

Technical Features

- Control via 20 mA set point signal or step contoller
- Intergated speed control
- Within voltage tolerance +10% / -15% constant speed and torque
- Configuration via digital communication or local control panel
- Electronical speed-and torque setting
- Simple commissioning due to advanced sensor technology
- Extensive monitoring- and diagnosis functions

Application

Robust electrical actuator for the operation of final control elements for a wide range of applications such such as energy, oil- and gas industry, water- and waste water treatment, etc.
Additional gearings (for part-turn, linear- or multi turn movement) allow for easy adaptation to various valve types.
These intelligent multi-turn actuators offer extended functions, diagnosis and significant simplifications for project planning and commissioning.
The Ontrac actuators of the MME 800 series are able to communiocate. That means a user-friendly infrared interface and a graphical user interface.
The modular design simplifies the spare parts stockpiling.
The integrated speed control ensures a high positioning accuracy even at small set point deviations.

Technical Data

Type specific data

Actuator	mech. output			Stroke without spindle cover [mm]	Flange (ISO 5210)	Flange (DIN 3210)	$P_{max.}$ [kw]	$I_{oper.} = I_{max}$ [A]	External Fuse	Weight standard [kg]
	Max. modulating torque Md [Nm]	Switch-off torque Md [Nm] 1)	Speed n [1/min]							
MME 806	25	20 - 50	7 - 35	190	F 10	--	0.48	1.8	3 x 16 A slow	20.5
MME 808	40	32 - 80	7 - 35	190	F 10	G 0	0.48	1.8		20.5
MME 812	75	60 - 150	7 - 35	190	F 10		0.85	2.9		22
MME 825	150	120 - 300	7 - 35	190	F 14	G 1 / 2	1.71	4.75		32
MME 850	300	240 - 600	7 - 35	190	F 14		2.72	7.6		37
MME 890	600	480 - 1200	7 - 35	190	F 16	G 3	6.7	11		63

1) Switch-off variations of ± 10% due to mechanical efficiency alteration
All actuators are self-locking!

Thread selection table for mech. Interface "A"

Actuator	Speed group	Thread DIN	Linear force [kN] min. / max.	Max. linear force in modulating mode [kN]	Speed [mm/s] min. / max.	Perm. axial forces acc. to ISO 5210 [kN]
MME 806	M	Tr 26x5	4.6 / 11.6	5.8	1.2 / 2.9	25
MME 808	M	Tr 26x5	8.8 / 22.1	11	1.2 / 2.9	40
MME 808	M	Tr 32x6	7.2 / 18.0	9	1.4/ 3.5	40
MME 812	M	Tr 32x6	14.4 / 36.0	18	1.4 / 3.5	40
MME 825	M	Tr 52x8	19.4 / 48.5	24	1.9 / 4.7	100
MME 850	M	Tr 52x8	24.3 / 57.6	29	1.9 / 4.7	100
MME 890	M	Tr 68x10	36.9 / 92.3	46	2.4 / 5.9	150

Linear forces when using mechanical interface "A". The forces are rated values which depend on the mechanical efficiency.

General Data

Voltage supply: AC 400 V 3 ~; -15% / +10%; 50/60 Hz +/- 5% (other voltages on request)

Add. voltage supply: DC 24 V; (18 ... 33 V); max. 500 mA for redundant supply of signal unit

Voltage output: DC 24 V; max. 30 mA; short-circuit proof for supply of conventional In- / output

Motor control: 3 phase frequency converter

Operating mode: S4 - 25% - 1200 c/h acc. to IEC 34 and EN 60034

Rated modulating torque: 50% of max. switch-off torque

Protection class : IP 67; optionally IP 68
IP 43 for storage and transport

Humidity: < 95% average (activated heater Avoids condensation)

Ambient temperature: -25℃ ... +60℃

Mounting position: any positon

Coating: 1 C epoxy enamel coating; (RAL9005; black); exterior screws stainless (oil drain screw zinc plated)

EMC interference immunity: acc. toEMC standard EN 61800 part 3

EMC emission:acc. to EMV standard EN 61800 part 3

Electr. Connection: see page 4 for details

Shortest puls: 50 ms

Controller dead band: 1%; (adjustable 0.5 ... 10%)

Analog input (option) : 4 ... 20 mA; galvanically isolated; 250Ω inherent resistance; rising characteristic

Digitag input (BE1 ... B4): 4 opto coupler, potential free, freely configurierable
digital 0: -3 ... +5V or open
digital 1: +12 ... + 35 V

Function Code	Function	Standard Settings
1	drive actuator to "**OPEN**"	BE 1
2	drive actuator to "**CLOSE**"	BE 2
3	STOP actuator	BE 3
4	Reset of failure messages	BE 4
5	Enabling signal **OPEN**	
6	Enabling signal **CLOSED**	
7	Locking of local control panel	
8	Switch from Remote Analog Control to Digital Control	
9	ESD Control	
10	Open or Close valve quickly with 1.4 times Max Speed	

Analog output (option):0/4 ... 20 mA as position signal; load max. 500Ω; galvancally isolated; short-circuit proof; rising or decreasing characteristic; temperature influence≤ 0.1% / 10K

Technical Data

Digital output: standard 4 (BA 1... 4) optionally 7 (BA 5... 7) or 8 (BA 5... 8) potential free, gold coated relay contacts, galvanically isolated, freely configurierable; max. 50V, overload-proof
$I_{max.}$ < 150 mA; $I_{min.}$ > 1 mA
see wiring diagram for pinout

Function Code	Function	Operating Mode		Standard Setting
1	Ready for operation	direct	inverted	BA1
2	Group alarm	direct	inverted	BA2
3	End position OPEN	direct	inverted	BA3
4	End position CLOSED	direct	inverted	BA4
5	Switch-off torque for OPEN exceeded	direct	inverted	BA5
6	Switch-off torque for CLOSED exceeded	direct	inverted	BA6
7	Position 1 achieved	direct	inverted	BA7
8	Position 2 achieved	direct	inverted	
9	Operating mode REMOTE	direct	inverted	
10	Operating mode LOCAL	direct	inverted	
11	Actuator moves (continuous signal)	direct	inverted	
12	Actuator moves (pulse signal)	direct	inverted	
13	Running direction- / end position indication (pulse / continuous signal) OPEN	direct	inverted	
14	Running direction- / end position indication (pulse / continuous signal) CLOSE	direct	inverted	
15	Analog Control/ Digital Control indication	direct	inverted	
16	Running direction OPEN (continuous signal)	direct	inverted	
17	Running direction CLOSE (continuous signal)	direct	inverted	
18	ESD Status indication (continuous signal)	direct	inverted	
19	Wheel operation indication	direct	inverted	
20	Analog Control Signal indication	direct	inverted	

Each digital output can be inverted using the graphical user interface or by manufacturer acc. to order specification.

Technical Data

Electrical connection
Identical pinout for terminal- and plug connection.

Operation behind external step controller:

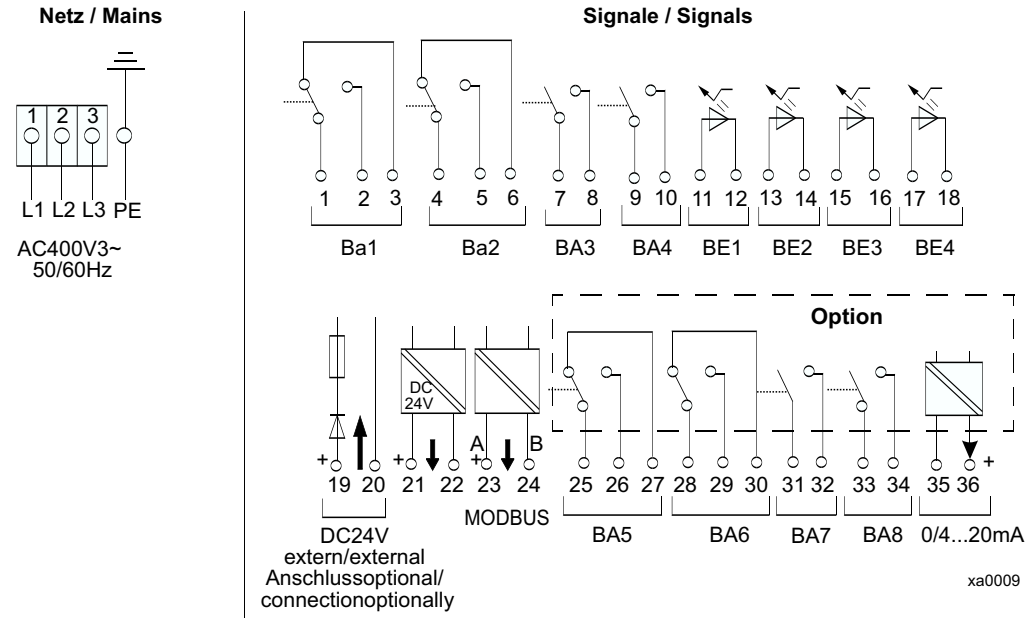


Fig. shows contacts not inverted

Signals BA 5 ... BA 8 and the analog position signal (0/4 ... 20 mA) are only available with code 385.
Shield all signal cables. Connect the screen only to actuator or to actuator and sub-distribution board.

Operation behind analog set point (only with code 387)

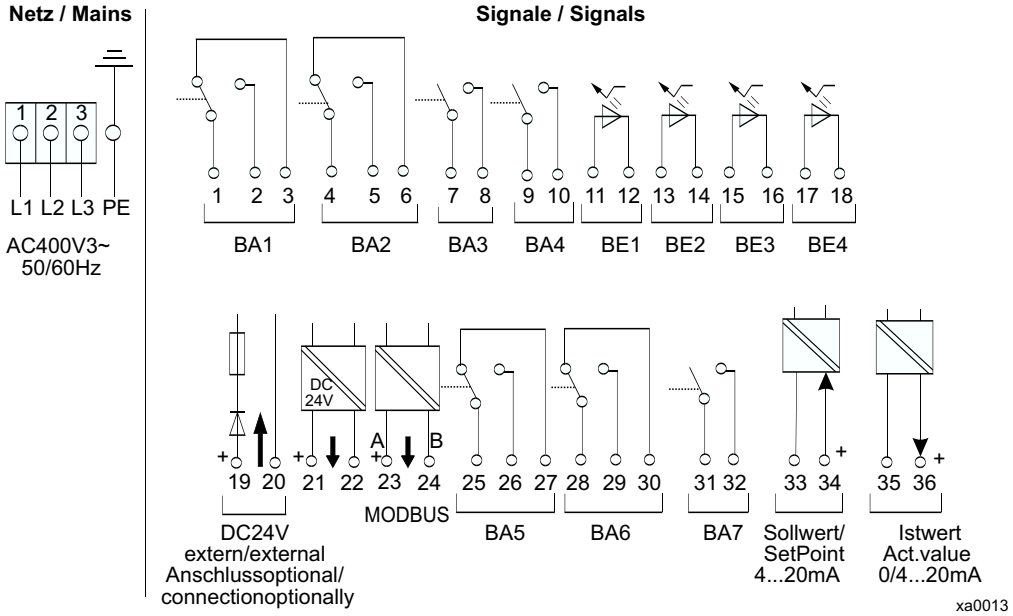


fig. shows contacts not activated
Shield all signal cables. Connect the screen only to actuator or to actuator and sub-distribution board.

Technical Data

Cable gauge:

Terminal connection:

Power cable: ⩽ 6 mm^2 inflexible or ⩽ 4 mm^2 flexible
Signal cable: ⩽ 2.5 mm^2 inflexible or flexible

Plug connection:

		MME 806 ... MME 890	Pin surface
Power cable (inflexible or flexible)	**standard**	⩽2.5 mm^2	silver-coated
	option	⩽6 mm^2	
Signal cable (inflexible or flexible)	**standard**	⩽2.5 mm^2	tin-coated
	option	⩽2.5 mm^2	gold-coated

Thread dimensions for cable inlet

	Standard	Option	
	Metric	**PG**	**NPT**
Terminal connection:	2 x M32 x 1.5 1 x M25 x 1.5	1 x PG 21 1 x PG 16 1 x PG 13.5	2 x NPT 1 〃 1 x NPT 3/4 〃
Plug connection:	2 x M32 x 1.5 2 x M16 x 1.5	1 x PG 21 1 x PG 16 2 x PG 11	2 x NPT 1 〃 2 x NPT 1/2 〃

At "as supplied" condition the cable entries are provided with dummy plugs. The high protection class can only be guaranteed with locally provided cable glands.

Order Information

Multi-Turn MME ...

Multi-Turn actuator MME ...						7	8	9	10	11	12	13	14	15	Code			
	max. mod. Torque	Order No.																
MME 806	25 Nm																	
MME 808	40 Nm																	
MME 812	75 Nm																	
MME 825	150 Nm																	
MME 850	300 Nm																	
MME 890	600 Nm																	
Output Speed	Antriebstypen MME ... (Abschaltmoment in Nm)																	
(1/min)	806/808	812	825	850	890													
7 ... 35	20-80	60-150	120-300	240-600	480-1200													
						M												

Order Information

			8	9	10	11	12	13	14	Code			
mechanical adaptation acc. to ISO 5210													
B1 (standard) ISO 5210		shaft Φ	1										
MME 806	with F10	42											
MME 808	with F10	42											
MME 812	with F10	42											
MME 825	with F14	60											
MME 850	with F14	60											
MME 890	with F16	70											
B2; ISO 5210		Shaft Φ	2										
MME 806	with F10	31⩽ 42											
MME 808	with F10	31⩽ 42											
MME 812	with F10	31⩽ 42											
MME 825	with F14	47⩽ 60											
MME 850	with F14	47⩽ 60											
MME 890	with F16	64⩽ 70											
shaft diam. in plain text: ..... mm													
Threaded bushing A ISO 5210		shaft Φ	3										
not drilled, centered													
MME 806	with F10	38											
MME 808	with F10	38											
MME 812	with F10	38											
MME 825	with F14	55											
MME 850	with F14	55											
MME 890	with F16	68											
Threaded bushing A pre-drilled; ISO 5210		shaft Φ	4										
acc. to thread selection table.... (see dimensions in data sheet)													
MME 806	with F10	38											
MME 808	with F10	38											
MME 812	with F10	38											
MME 825	with F14	55											
MME 850	with F14	55											
MME 890	with F16	68											
thread dimens. in plain text: ..... mm													
B3; ISO 5210		Shaft Φ	5										
MME 806	with F10	20											
MME 808	with F10	20											
MME 812	with F10	20											
MME 825	with F14	30											
MME 850	with F14	30											
MME 890	with F16	40											
B4; ISO 5210		shaft Φ	6										
MME 806	with F07	16⩽28											
MME 808	with F10	20⩽31											
MME 812	with F10	20⩽31											
MME 825	with F14	30⩽47											
MME 850	with F14	30⩽47											
MME 890	with F16												
shaft diam. in plain text: ..... mm													
B4; ISO 5210		shaft Φ	6										
MME 808	with F10	20⩽31											
MME 812	with F10	20⩽31											
MME 825	with F14	30⩽47											
MME 850	with F14	30⩽47											
MME 890	with F16												
shaft diam. in plain text: ..... mm													

Order Information

		8	9	10	11	12	13	14	Code			
mechanical adaptation acc. to DIN 3210												
Type B (Standard); DIN 3210	shaft Φ	M										
MME 808 with G 0	42											
MME 812 with G 0	42											
MME 825 with G 1/2	60											
MME 850 with G 1/2	60											
MME 890 with G 3	70											
Threaded bushing A ; DIN 3210	shaft Φ	N										
undrilled; centered												
MME 808 with G 0	38											
MME 812 with G 0	38											
MME 825 with G 1/2	55											
MME 850 with G 1/2	55											
MME 890 with G 3	68											
Threaded bushing A pre-drilled; DIN 3210	shaft Φ	P										
acc. to thread selection table.... (see dimensions in data sheet)												
MME 808 with G 0	38											
MME 812 with G 0	38											
MME 825 with G 1/2	55											
MME 850 with G 1/2	55											
MME 890 with G 3	55											
	68											
thread dimensions in plain text:..... mm												
Type E; DIN 3210	shaft Φ	R										
MME 808 with G 0	20											
MME 812 with G 0	20											
MME 825 with G 1/2	30											
MME 850 with G 1/2	30											
MME 890 with G 3	40											
Type C; DIN 3210	shaft Φ	S										
MME 808 with G 0	20											
MME 812 with G 0	20											
MME 825 with G 1/2	30											
MME 850 with G 1/2	30											
MME 890 with G 3	40											
Type D; DIN 3210	shaft Φ	T										
MME 808 with G 0	20											
MME 812 with G 0	20											
MME 825 with G 1/2	30											
MME 850 with G 1/2	30											
MME 890 with G 3	40											

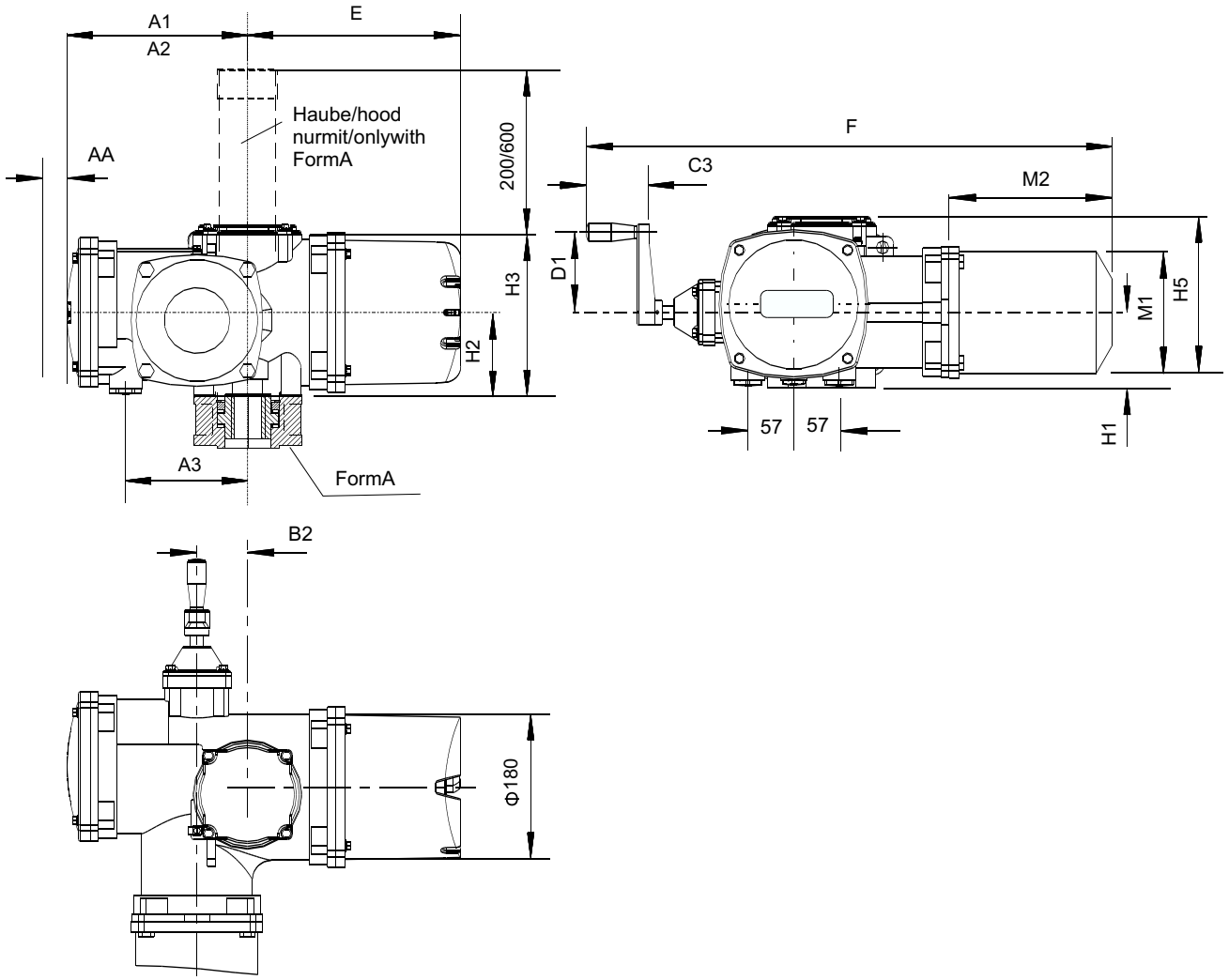
Order Information

		9	10	11	12	13	14	Code			
Spindle cover											
without (standard)(max. stroke see type specific data)1											
Length 200 mm[1)]	MME 806	2									
	MME 808	2									
	MME 812	2									
	MME 825	2									
	MME 850	2									
	MME 890	2									
Length 600 mm[1)]	MME 806	3									
	MME 808	3									
	MME 812	3									
	MME 825	3									
	MME 850	3									
	MME 890	3									
[1)] from top of housing											
Electronics design											
Integrated electronics (standard)			A								
Separate electronics w ithout cable	upon request										
Separate electronics with ..... m cable	upon request										
Voltage supply											
AC 400 V 3 ~; 50/60 Hz				1							
Special voltage	upon request										
Electrical connection (see "technical data" for details)											
Terminal connection for pow er- and signal cable					1						
Plug connection MME 806 ... MME 850											
Silver-coated for power cable max. 2.5 mm²	tin-coated for signal cable max. 2.5 mm²				2						
	gold-coated for signal cable max. 2.5 mm²				3						
Silver-coated for power cable max. 6 mm²	tin-coated for signal cable max. 2.5 mm²				4						
	gold-coated for signal cable max. 2.5 mm²				5						
Cable entry (see "electrical connection" for details)											
Metric thread						A					
PG thread						B					
NPT thread						C					
Hand crank											
With hand crank (standard)							1				

Order Information

Add 3-digit code no. for further features	Code			
Protection Class				
IP 68 (standard IP 67)	668			
Heater				
Electrical anti-condensation heater	360			
Interfaces				
0/4 ... 20 mA (actual value) / + 4 signal contacts (BA 5 ... BA8)	385			
Profibus DP / V1 (only available for version: plug connection)	386			
Set point iuput 4···20mA; position input 0/4···20mA + 3 signal contacts (BA5···BA7)	387			
MODBUS	388			
4 digital contact outputs 220V AC/8A	389			
Software Adjustment for Basic Functions				
(highlighted values are set in case of missing code no.)				
Language: German	797			
Language: English	---			
Switch-off torque + direction (40 ... 100%; 10% steps)	148			
Switch-off torque - direction (40 ... 100%; 10% steps)..... %	151			
Speed (rpm) + direction (20 ... 40 ...100%; 5% steps)..... %	154			
Speed (rpm) - direction (20 ... 40 ... 100%; 5% steps)..... %	155			
Switch-off mode + direction				
position Dependent (55... 100%; 1% steps)..... %	161			
torque dependent	163			
Switch-off mode - direction				
position Dependent (0... 45%; 1% steps)..... %	166			
torque dependent	168			
Additional Software Functions				
Standard setting	390			
Customer specific setting (see next page)	391			
Additional Labelling				
Additional inscription (plain text; max. 32 characters).....	295			
Assembly with				
Valve / flap of order ..... item.....	480			
Assembly with				
Additional gearing of order ..... item.....	486			
Certificate				
manufacturers certificate 2.1 acc. to EN 10204	291			
certificate about final test 3.1 B acc. to EN 10204	292			
Accessories (mechanical)				
IR-adapter for communickation via IR-interface	277			
Lockable device to avoid manual crank operation	276			
Clasp to lock the mode selection switch	275			
Plug holder with cover	273			
Software				
Smart Vision for Ontrac (see data sheet 10/63-1.20 EN)				
Instructions				
English No remark for 1 copy	Z1E			

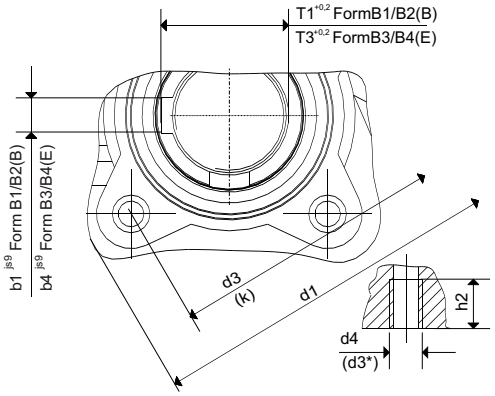
Dimensions



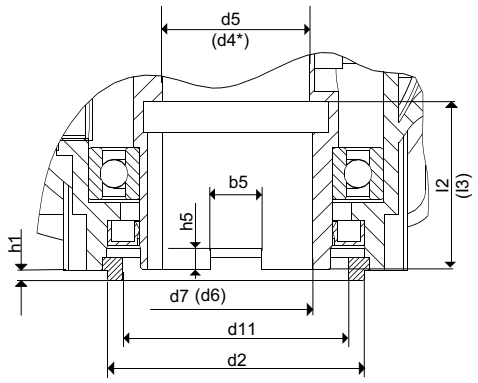
	MME 806	MME808	MME 812	MME 825	MME 850	MME 890
ISO 5210	F10	F10	F10	F14	F14	F16
A1	206	206	206	225	225	244
A2	235	235	235	254	254	273
A3	133	133	133	152	152	175
AA	40	40	40	40	40	40
B2	50	50	50	63	63	80
D1	R60	R60	R60	R100	R100	R100
E	253	253	253	266	266	385
F	543	563	622	676	676	737
H1	94.5	94.5	94.5	94.5	94.5	109.5
H2	104.5	104.5	104.5	104.5	104.5	110.5
H3	202	202	202	202	202	211.5
H5	214	214	214	214	214	410
M1	106	106	120	137 / 152	137 / 152	137 / 152
M2	133	133	161	191 / 204	191 / 204	191 / 204

Dimensions (mechanical interface)

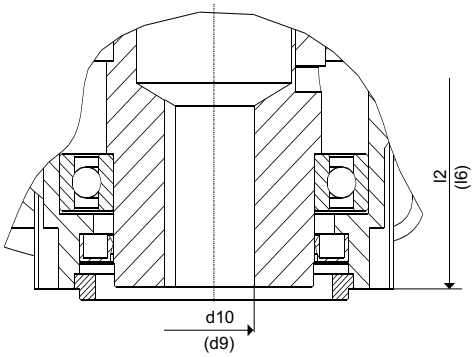
Flange



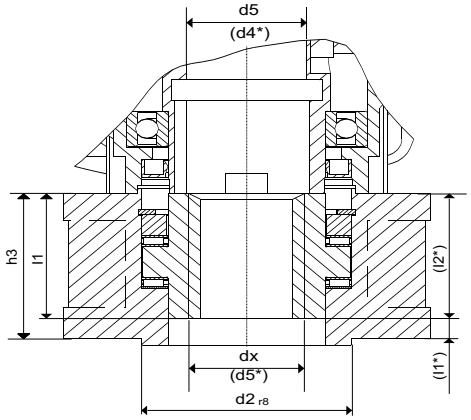
Form B1 / B2 (B)



Form B3 / B4 (E)



Form A



Ma βe	Ontrac Intelligence Electric Actuator Series MmE 800		
	MME 806 / MME808 / MME 812	MME 825 / MME 850	MME 890
	F10 ISO 5210	**F14** ISO 5210	**F16** ISO 5210
General Flange Dimensions			
Φd1	125	175	215
Φd2 f8	70	100	130
Φd3	102	140	165
k	-	-	-
Φd3*	-	-	-
d4	M10	M16	M20
h1	3	4	5
h2	21	26	27
d11	54	88	120
Additional Dimensions for Interface B1/B2 (B)			
d4*	-	-	-
d5	40	57.5	70
d6	-	-	-
d7	42	60	70
d7 max.	31 ... 42	47 ... 60	64 ... 70
l3		-	-
l2	-	-	-
b1	12	18	20
t1	45.3	64.4	74.9
b5	14	20	24
h5	7	8	10
Additional Dimensions for Interface B3/B4 (E)			
l6	-	-	-
l6**	>55	>76	>105
b4	6	8	12
t3	22.8	33.3	43.3
d9	-	-	-
d10	20	30	40
d10 min.	20 ... 31	30 ... 47	40 ... 54
Additional Dimensions for Interface "A"			**"A"**
l2*	-	-	-
l1*	-	-	-
h3	52	83	107
l1	51	71.5	87
d5* max	-	-	-
dx max.	38	55	68

Contact us

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