



A. C. Solenoid

Range up to
8 mm and 4,8 Ncm

2

Product group

Type **WHD**

- According to VDE 0580
(conform with article 10 of direction 73/23/EEC –
according to CENELEC memorandum no. 3 of March 1987).
- Increasing force characteristic (Fig. 2)
- Small dimensions – one size
- Pulling arrangement
- Flange mounting
Suitable for mounting and operation at any attitude
- Armature in brass guides
- Coil with insulation to class F
for voltages up to 250 Volts A. C.
- Spade connections DIN 46427
Special version with free leads
- Protection classification – DIN VDE 0470/EN 60529
Electrical connection – IP 00
- Tropical protection comprising special coil and paint
finish can be provided
- Modifications and special designs on request
- General-purpose, light-duty solenoid
for service on:
Machine tools Remote control
Automation Office machines
Packaging and coin equipment
Textile machinery

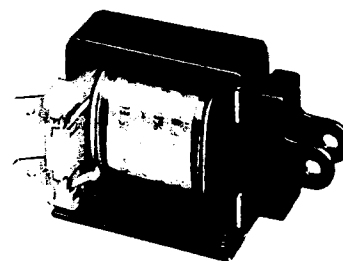


Fig. 1
Type WHD X 025 E 00 D 01

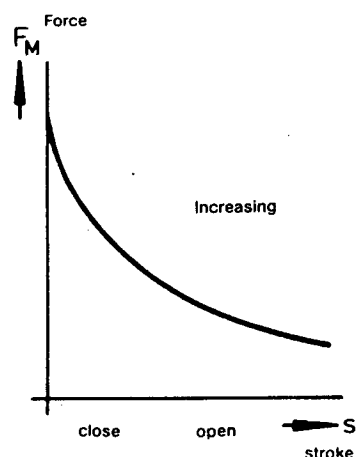


Fig. 2
Force characteristic
MSM - Fo 0804 1242

Performance and dimension tables for type W HD X 025 E 00 D 01

W	HD X	025							
		100		40		25		15	
Duty rating ED (%)		100		40		25		15	
Force F _M		N	-	N	-	N	-	N	-
Power consumption P _S		-	VA	-	VA	-	VA	-	VA
Stroke s (mm)	0	19	26	21	43	23	60	25	95
	1	19	45	22	68	25	84	30	117
	2	12,5	61	16	82	18	100	23	135
	3	9,7	72	12	92	13,5	110	17,5	145
	5	7,0	84	8,8	105	10	125	12,5	160
	8	5,9	99	7,2	125	8,0	145	10,5	180
Work rating A _N (Ncm)		4,8		5,8		6,4		8,4	
Frequency of oper. S _n (1/h)		120		120		120		120	
Closing time t ₁ (ms)		85		85		85		85	
Opening time t ₂ (ms)		75		72		70		65	
Armature wt. m _A (kg)		0,040		0,040		0,040		0,040	
Solenoid wt. m _M (kg)		0,165		0,165		0,165		0,165	

Note: - 0 mm is completion of energized stroke.

PERFORMANCE TABLE terms are explained in Technical Bulletin W XX & VDE 0580/35.

TABLE BASIS

- 220 V/50 Hz/15 - 100 % duty. - 120 rated strokes/hr.
- Ambient temperature 35° C. - Heat insulated mounted.
- Horizontal - Pull arrgt. - In free air.
- Tolerance ± 10 % (inherent & manufacture)

MAGNETIC FORCE (F_M) is listed for HOT condition at 90 % of rated voltage and will increase by approx. 20 % at rated voltage.

Force should be adjusted for armature weight.

POWER CONSUMPTION (P_S) is listed for coil temperature of 20° C at rated voltage.

OPERATING TIMES (t₁/t₂) are averaged relative to supply phase cycle variation at switch time (± 15 %). Times are listed for HOT condition at rated voltage with "weight" load of 70 % of force (F_M) at and over rated stroke.

DUTY RATING (ED %) - % of energized time

per operation cycle: $\frac{t_{on}}{t_{on} + t_{off}} \times 100$.

Max. energized time per cycle of: -

- 100 % - continuous: 40 % - 120 secs., 25 % - 75 secs., 15 % - 45 secs.

RATE OF OPERATION (S/hr.) is limited to 120 strokes (cycles)/hour at rated stroke and force. Increase by reduction of stroke, duty rating, force (special coil winding) or any combination together with heat sink and cooling within the maximum coil temperature limit - 150° C.

SUPPLY VOLTAGE - Standard voltages are: -24 V, 110 V, 220 V, 230 V and 240 V (+ 5 % / - 10 %) at 50 Hz. Maximum voltage - 250 V, 50/60 Hz 60 Hz/50 Hz coil - force/temperature - reduced - 50/60 Hz - increased - Beware! 60 Hz coil available with listed Magnetic force (F_M).

NOISE - A.C. solenoids may develop unacceptable noise (hum) especially if resonantly mounted. Consider D.C. solenoid/rectifier or A.C./D.C. Economiser.

LOAD must allow armature to limit travel with FREE coupling for movement within guides, and should NOT be too large or less than 60 % to obviate "burn-out" or "hammer" damage.

A.C./D.C. ECONOMISER provides, after a timed period D.C. for "hold" preventing "hum", allowing long stroke, high operation rate, with power economy.

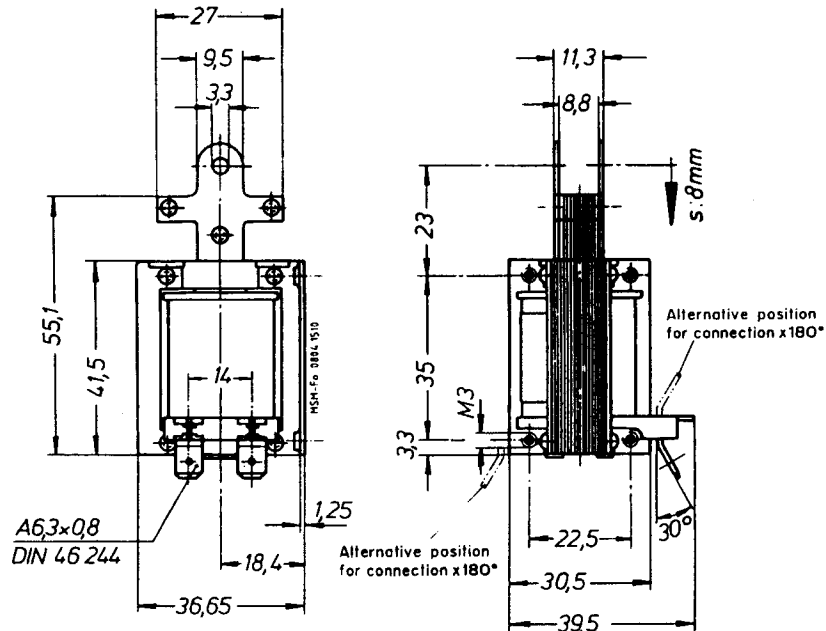
SPARE coils, guides and armatures are available with fitting instructions.

PROTECTION - solenoids may be provided with tropical protection, comprising special coil and paint finish.

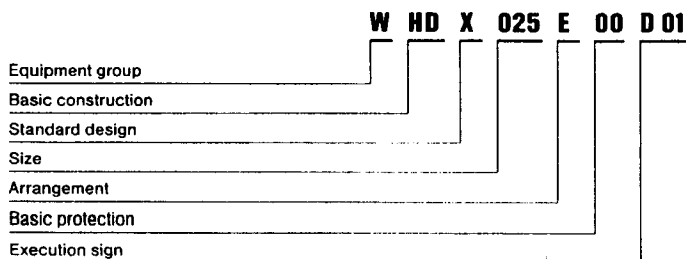
Conversion Factors

- 1 N = 0.102 kp ≈ 0.1 kg
- 1 kg = 2.2 lb
- 1 mm = 0.039 in
- 1 Ncm = 0.086 in lb

Fig. 3
Type WHD
Dimensions in mm



Type code



Order Example

- Type **W HD X 025 E 00 D 01**
- Add - Voltage (V)
- Frequency (Hz)
- Duty rating (ED) %
- Frequency of operation s/hr
- Tropical protection if required