Küppers Elektromechanik GmbH
Flow Meters
Liebigstr. 2 • D-85757 Karlsfeld • Phone +49 81 31/59 39 10 • Fax +49 81 31/9 26 04

ZHA Series
Aluminium Gear Flow Meters

Technical Data

ZHA type	Measuring range ltr./min			K-factor pulses/ltr.	Pressure bar	Weight kg
ZHA 01/2 KL*	0.02	to	3	28,000	350	0.30
ZHA 02 KL*	0.1	to	7	8,400	350	0.38
ZHA 03 KL*	0.5	to	25	3,480	350	0.50
ZHA 04 KL*	0.5	to	70	950	350	4.00
ZHA 05 KL*	5	to	150	268	350	12.7
ZHA 06 KL*	20	to	500	106	350	16.8

* Complete part no. depends on pickup and O-ring.

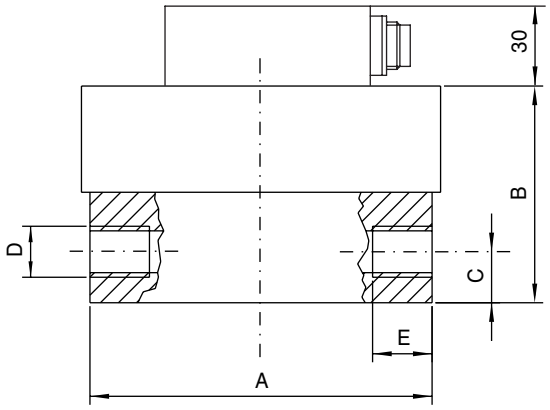
Materials

Housing: . . . . . .high-strength aluminium ALCuMgPb
Gears: . . . . . .stainless steel as per DIN 1.4122/AISI 303 or 1.4460/AISI 329 (special)
Shafts, bearings: . . . . . .stainless steel
O-ring: . . . . . .viton or teflon

Dimensional Drawings (mm)

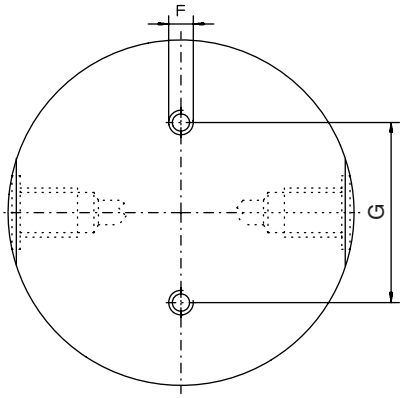
ZHA 01/2 to ZHA 05

Side view



Type	A	B	C	D	E
ZHA 01/2	72.0	55	12.0	G 1/4″	16
ZHA 02	80.0	55	12.0	G 1/4″	16
ZHA 03	80.5	67	13.0	G 1/2″	16
ZHA 04	119.0	107	19.0	G 1/2″	16
ZHA 05	170.0	133	22.5	G 1″	18

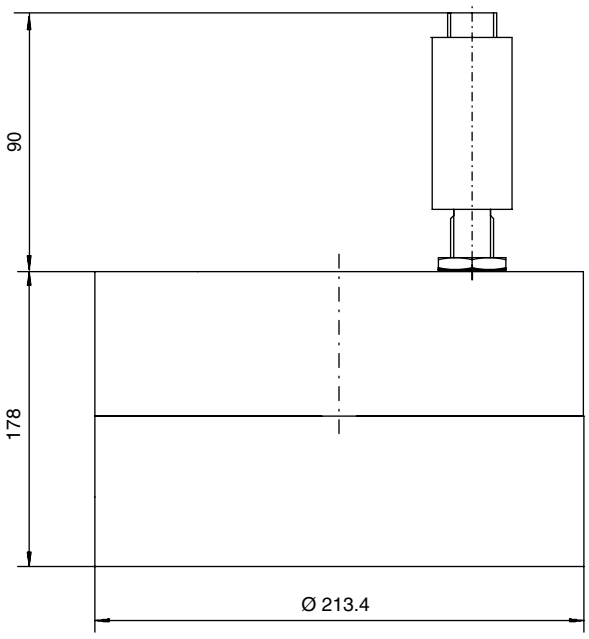
Bottom view



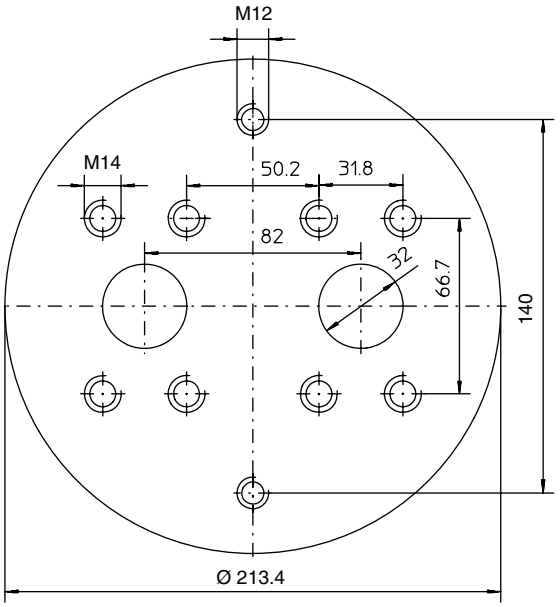
Type	G	F
ZHA 01/2	44	M6
ZHA 02	44	M6
ZHA 03	44	M6
ZHA 04	60	M8
ZHA 05	100	M8

ZHA 06

Side view ZHA 06

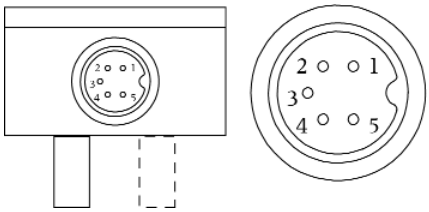


Bottom view ZHA 06
bottom in- and outlet only



Sensors VHE and VHD for ZHA 01/2 to ZHA 04

	VHE Single Hall Effect Sensor	**VHD Dual Hall Effect Sensor**
Supply Voltage:	12 to 30 VDC, max. 10 mA	12 to 30 VDC, max. 10 mA
Frequency range:	1 up to 3,000 Hz	1 up to 3,000 Hz
Output:	Square wave signal	Square wave signal double measuring frequency and reverse-flow detection
Output impedance:	approx. 470 Ω	approx. 470 Ω
Temperature range:	0 up to +70°C	0 up to +70°C
Electrical connection:	5-pin plug 1 = Supply voltage 2 = Output signal 3 = 0V/GND 4 = nc 5 = nc	5-pin plug 1 = Supply voltage 2 = Output signal 1 3 = 0V/GND 4 = Output signal 2 5 = nc



IG 03 H for ZHA 05 to ZHA 06

minimum frequency:	1 Hz
maximum frequency:	1 kHz
output signal:	squarewave pulses positive, 0.8 V below supply voltage
pin connection:	A = 12-24 V B = 0 V C = signal
output impedance:	approx. 470 Ω
supply voltage:	12-24 DC, max. 10 mA
ambient temperature:	0 to +75 °C during operation, -30 to +90 °C during storage