

CORONA E

Electronic Meter | Multi-Jet

DIEHL
Metering



APPLICATION

Fully electronic compact water meter with impeller scanning for recording volume. Highly accurate recording of all billing data at medium temperatures up to 90 °C.

FEATURES

- ▶ Electronic sensor control for recording flow rate
- ▶ Lithium battery, lifetime up to 12 years
- ▶ Optical ZVEI interface equipped as standard
- ▶ Adjustable reading date for billing
- ▶ Rotatable integrator
- ▶ Single-line 7-digit display for easy meter reading

CORONA E

Electronic Meter | Multi-Jet

ELECTRONIC - BASIC FEATURES

CORONA E	
Ambient class	OIML R49 class C / MID E2 + M1
Protection class	IP 54 or IP 68 for cold and warm water meter
Interfaces standard	Optical ZVEI
Interfaces optional*	M-Bus, L-Bus, pulse

* Possible combinations

- M-Bus / pulse
- L-Bus / forward pulse
- only M-Bus

Note: IZAR@SET / HYDRO-SET Software for configuration of meters, readout of measured values and printout of meter logs. Available under www.diehl.com/metering (Products - downloads)

TECHNICAL DATA DISPLAY

CORONA E	
Display indication	LCD, 7-digit
Unit	m ³ /h - l/h - m ³ - l
Total values	9,999.999 - 999,999.9 - 99,999.99 - 9,999.999
Values displayed	Flow rate

SUPPLY VOLTAGE

CORONA E			
Operating voltage	UN	VDC	3.0 (lithium battery)
Battery lifetime			Up to 12 years
Nominal power	PN	μW	30

INTERFACES - OVERVIEW

CORONA E	
Optical	ZVEI interface for communication, M-Bus protocol
M-Bus	According to EN 1434-3. Data reading and parametrization are via two wires with polarity reversal protection. (Meter is powered with energy via M-Bus Master)
L-Bus	Interface for the radio module IZAR RADIO EXTERN
Pulse	Output for volume

PULSE INTERFACE - SPECIFICATION

CORONA E		
Pulse rates	l/pulse	Decadic 0.1 ... 100
Display		2 digits after comma
Pulse value 1	l/pulse	0.1 (factory setting)
Pulse value 2	l/pulse	1 (factory setting)
Pulse variants		Two forward pulses; one forward and one backward pulse; pulse and direction signal

Note: In the field the pulse values can be configured as desired in the specified value range.

CORONA E

Electronic Meter | Multi-Jet

VOLUME- / PULSE

		CORONA E
Output type		Open collector
Max. frequency	Hz	90
Max. input voltage	V	30
Max. input current	mA	27
Max. voltage drop at active output	V/mA	2/27
Max. current through inactive output	μ A/V	5/30
Max. reverse voltage without destroying outputs	V	6
Min. pulse duration	ms	5.5 (at max. frequency of 90 Hz)
Max. pulse duration	s	2
Min. pulse pause	ms	5.5

CORONA E_{DN 15 - 20}

Electronic Meter | Multi-Jet

GENERAL

			DN 15 - 20					
Temperature range	°C	30 (for cold water meter) / 90 (for warm water meter)						
Ambient operating temperature	°C	0 ... 55						
Ambient storage temperature	°C	-20 ... 55						
Nominal pressure	PN	bar	10 / 16					
Mounting position	In any position							

TECHNICAL DATA

Nominal diameter	DN	mm	15	15	15	20	20	20
Nominal flow rate	Q ₃	m ³ /h	2.5	2.5	2.5	4	4	4
Nominal flow rate	Q _n	m ³ /h	1.5	1.5	1.5	2.5	2.5	2.5
Overall length	L	mm	110	130	165	105	130	190
Overload flow rate	Q ₄	m ³ /h	3.125	3.125	3.125	5	5	5
Transition flow rate	Q ₂	l/h	32	32	32	51	51	51
Minimum flow rate	Q ₁	l/h	20*	20*	20*	32*	32*	32*
Maximum flow rate (short-term)	Q _{max}	m ³ /h	3	3	3	5	5	5
Transition flow rate	Q _t	l/h	22.5	22.5	22.5	37.5	37.5	37.5
Minimum flow rate	Q _{min}	l/h	15	15	15	25	25	25
Starting flow rate		l/h	3 - 4	3 - 4	3 - 4	5 - 6	5 - 6	5 - 6
Pressure loss at Q ₃	Δp	mbar	615	615	615	620	620	620
Flow rate at 0.1 bar pressure loss		m ³ /h	0.962	0.962	0.962	1.607	1.607	1.607

* at R 125

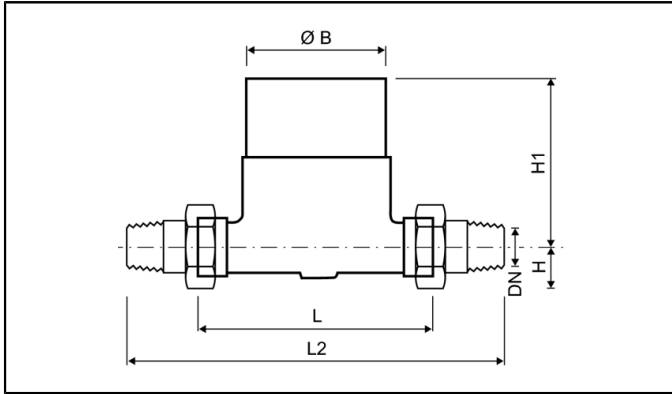
APPROVAL

Nominal diameter	DN	mm	15	15	15	20	20	20
Nominal flow rate	Q ₃	m ³ /h	2.5	2.5	2.5	4	4	4
Nominal flow rate	Q _n	m ³ /h	1.5	1.5	1.5	2.5	2.5	2.5
Overall length	L	mm	110	130	165	105	130	190
MID (DE-07-MI001-PTB008) - T30			•	•	•			
MID (LNE 12552) - T90			•	•	•			
MID (LNE 13629) - T30/T90						•	•	•
Dynamic range (Q ₃ /Q ₁)	R		80 / 100 / 125	80 / 100 / 125	80 / 100 / 125	80 / 100 / 125	80 / 100 / 125	80 / 100 / 125
National 6.131 / 97.43 - 30 °C			•	•	•	•	•	•
National 6.331 / 97.79 - 90 °C			•	•	•	•	•	•
Metrological class			B / C	B / C	B	B	B / C	B

CORONA E_{DN 15 - 20}

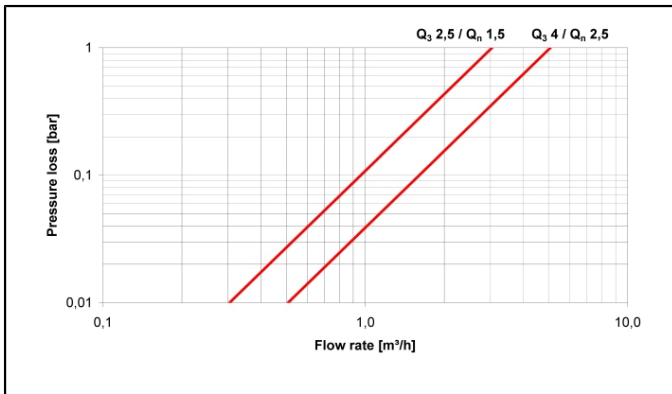
Electronic Meter | Multi-Jet

DIMENSIONS

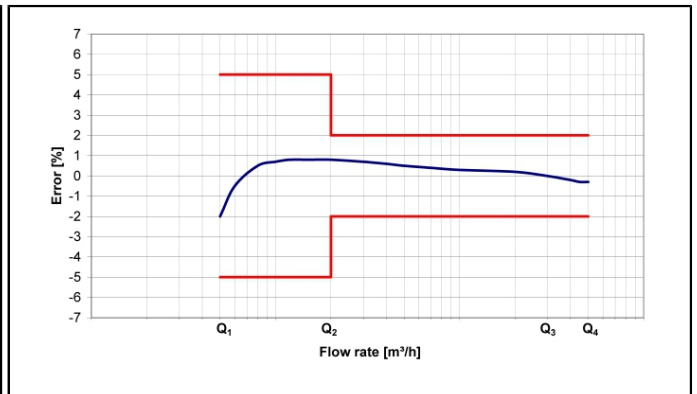


Nominal diameter	DN	mm	15	15	15	20	20	20
Nominal flow rate	Q ₃	m ³ /h	2.5	2.5	2.5	4	4	4
Nominal flow rate	Q _n	m ³ /h	1.5	1.5	1.5	2.5	2.5	2.5
Overall length	L	mm	110	130	165	105	130	190
Overall length with coupling	L2	mm	186	206	241	181	206	266
Connection thread on meter		Inch	G ³ / ₄ B	G ³ / ₄ B	G ³ / ₄ B	G1B	G1B	G1B
Connection thread of coupling		Inch	R ¹ / ₂	R ¹ / ₂	R ¹ / ₂	R ³ / ₄	R ³ / ₄	R ³ / ₄
Height	H	mm	20	20	20	20	20	20
Height	H1	mm	75	75	75	75	75	75
Diameter	Ø B	mm	62	62	62	62	62	62
Weight without coupling		kg	0.8	1	1.3	0.8	1	1.5
Weight with coupling		kg	1	1.2	1.5	1.3	1.5	2

PRESSURE LOSS GRAPH / TYPICAL ERROR GRAPH



Pressure loss graph



Typical error graph

CORONA E_{DN 25 - 40} | HORIZONTAL

Electronic Meter | Multi-Jet

GENERAL

			DN 25 - 40 HORIZONTAL		
Temperature range	°C	30 (for cold water meter) / 90 (for warm water meter)			
Ambient operating temperature	°C	0 ... 55			
Ambient storage temperature	°C	-20 ... 55			
Nominal pressure	PN	bar	16		
Mounting position	Horizontal				

TECHNICAL DATA

Nominal diameter	DN	mm	25	32	40
Nominal flow rate	Q ₃	m ³ /h	6.3	6.3	10
Nominal flow rate	Q _n	m ³ /h	6	6	10
Overall length	L	mm	260	260	300
Overload flow rate	Q ₄	m ³ /h	7.9	7.9	12.5
Transition flow rate	Q ₂	l/h	125	125	200
Minimum flow rate	Q ₁	l/h	80*	80*	125*
Maximum flow rate (short-term)	Q _{max}	m ³ /h	12	12	20
Transition flow rate	Q _t	l/h	480	480	800
Minimum flow rate	Q _{min}	l/h	120	120	200
Starting flow rate		l/h	20	20	45
Pressure loss at Q ₃	Δp	mbar	280	240	200
Flow rate at 1 bar pressure loss (30 °C)		m ³ /h	12	12	24

* at R 80

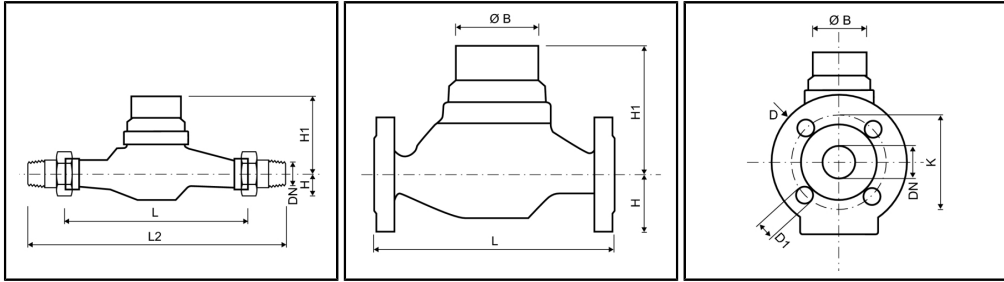
APPROVAL

Nominal diameter	DN	mm	25	32	40
Nominal flow rate	Q ₃	m ³ /h	6.3	6.3	10
Nominal flow rate	Q _n	m ³ /h	6	6	10
Overall length	L	mm	260	260	300
MID (LNE 14587) - T30/T90			•	•	•
Dynamic range (Q ₃ /Q ₁)	R		50 / 63 / 80	50 / 63 / 80	50 / 63 / 80
National 6.131 / 97.43 - 30 °C			•	•	•
National 6.331 / 97.79 - 90 °C			•	•	•
Metrological class			B	B	B

CORONA E_{DN 25 - 40} | HORIZONTAL

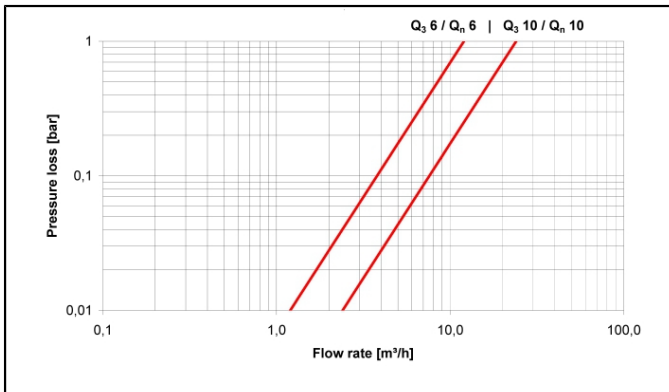
Electronic Meter | Multi-Jet

DIMENSIONS

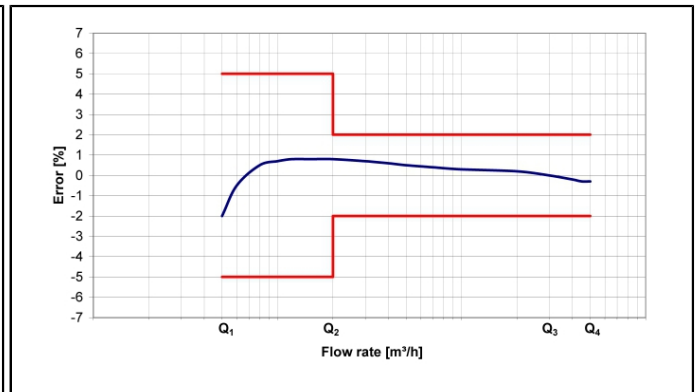


Nominal diameter	DN	mm	25	32	40
Nominal flow rate	Q ₃	m ³ /h	6.3	6.3	10
Nominal flow rate	Q _n	m ³ /h	6	6	10
Overall length	L	mm	260	260	300
Overall length with coupling	L2	mm	378	378	438
Connection thread on meter	Inch		G1¼B / G1½B	G1½B	G2B
Connection thread of coupling	Inch		R1 / R1¼	R1	R1½
Flange diameter	D	mm	115	-	150
Hole circle diameter	K	mm	85	-	110
Number of screwholes		pcs	4	-	4
Screw hole diameter	D1	mm	18	-	18
Height	H	mm	45	45	60
Height	H1	mm	110	110	115
Diameter	Ø B	mm	62	62	62
Weight without coupling		kg	2.9	2.9	5.1
Weight with coupling		kg	3.6	3.6	6.0
Weight with flanges		kg	4.9	-	8.6

PRESSURE LOSS GRAPH / TYPICAL ERROR GRAPH



Pressure loss graph



Typical error graph

CORONA E_{DN 25 - 40} | VERTICAL

Electronic Meter | Multi-Jet

GENERAL

			DN 25 - 40 VERTICAL		
Temperature range	°C	30 (for cold water meter) / 90 (for warm water meter)			
Ambient operating temperature	°C	0 ... 55			
Ambient storage temperature	°C	-20 ... 55			
Nominal pressure	PN	bar	16		
Mounting position	Rising pipe, downpipe				

TECHNICAL DATA

Nominal diameter	DN	mm	25	32	40
Nominal flow rate	Q ₃	m ³ /h	6.3	6.3	10
Nominal flow rate	Q _n	m ³ /h	6	6	10
Overall length	L	mm	150	150	200
Overload flow rate	Q ₄	m ³ /h	7.9	7.9	12.5
Transition flow rate	Q ₂	l/h	125	125	200
Minimum flow rate	Q ₁	l/h	80*	80*	125*
Maximum flow rate (short-term)	Q _{max}	m ³ /h	12	12	20
Transition flow rate	Q _t	l/h	480	480	800
Minimum flow rate	Q _{min}	l/h	120	120	200
Starting flow rate		l/h	20	20	45
Pressure loss at Q ₃	Δp	mbar	280	280	240
Flow rate at 1 bar pressure loss (30 °C)		m ³ /h	12	12	24

* at R 80

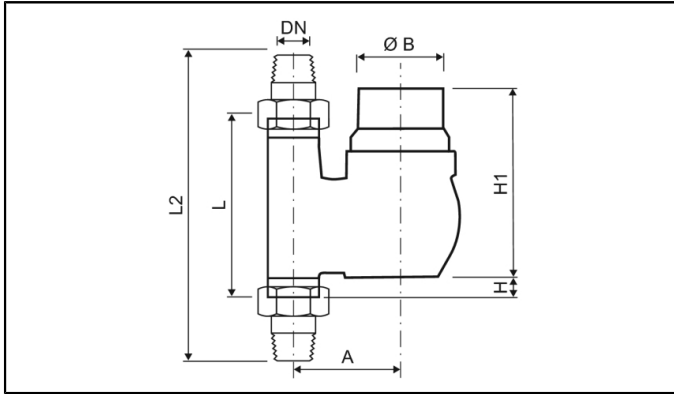
APPROVAL

Nominal diameter	DN	mm	25	32	40
Nominal flow rate	Q ₃	m ³ /h	6.3	6.3	10
Nominal flow rate	Q _n	m ³ /h	6	6	10
Overall length	L	mm	150	150	200
MID (LNE 14587) - T30/T90			•	•	•
Dynamic range (Q ₃ /Q ₁)	R		50 / 63 / 80	50 / 63 / 80	50 / 63 / 80
National 6.131 / 97.43 - 30 °C			•	•	•
National 6.331 / 97.79 - 90 °C			•	•	•
Metrological class			B	B	B

CORONA E_{DN 25 - 40} | VERTICAL

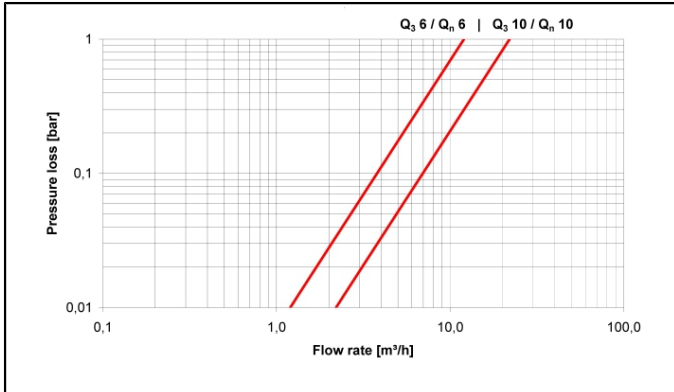
Electronic Meter | Multi-Jet

DIMENSIONS

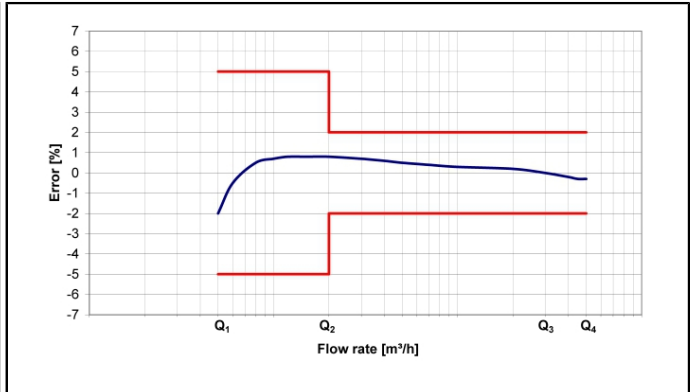


Nominal diameter	DN	mm	25	32	40
Nominal flow rate	Q ₃	m ³ /h	6.3	6.3	10
Nominal flow rate	Q _n	m ³ /h	6	6	10
Overall length	L	mm	150	150	200
Overall length with coupling	L2	mm	268	268	338
Connection thread on meter		Inch	G1¼B	G1½B	G2B
Connection thread of coupling		Inch	R1	R1¼	R1½
Height	H	mm	31	31	21
Height	H1	mm	161	161	191
Diameter	Ø B	mm	62	62	62
Width	A	mm	146	146	185
Weight without coupling		kg	3.1	3.1	5.5
Weight with coupling		kg	3.7	3.7	6.7

PRESSURE LOSS GRAPH / TYPICAL ERROR GRAPH



Pressure loss graph



Typical error graph