PETROL®

PD Flowmeters since 1970

Master Meters Petrol Instruments

16" Master Meter

Main features / Benefits

- ✔ High accuracy & quality
- ✔ Very reduced maintenance
- ✔ Flange size 1" ÷ 16"
- ✔ Conformity with international standard
- ✔ Floating rotors
- ✔ Magnetic transmission
- ✔ Carbon bearings
- ✔ Repeatability ± 0,02%
- ✔ Accuracy ± 0,1%
- ✔ Max pressure 150 bar
- ✔ Max temperature 250 °C
- ✔ Intrinsically safe and explosion proof pulse transmitters (Optional)

Please consults factory for higher pressure and / or temperature and for different construction materials.

Identification Code

M A 13 - 22 - F 8

- **M** Master Meter
- **A** Max operating pressure
- **13** Master Meter model
- **22** Counter model
- **F** Outer housing material
- **8** Measuring unit material

Counters

Mod. 22	Mechanical counter with 8 figures reset type totalizer (6 on digits plus 2 on dial) and with 8 digits non reset type totalizer.
Mod. VR	Counter with 5 large figures reset type totalizer, 8 digits non reset type totalizer, 5 figures settable through single push buttons preset counter (optional) and 5 digits zero-start or 7 digits accumulative type ticket printer (optional).
Mod. E	Electronic counter for fiscal applications with optional preset and temperature compensation functions
Mod. F/K	Intrinsically safe or Explosion proof digital totalizer and flow indicator with optional pulse output and/or 4÷20 mA output.

Outer Housing Materials

Code	Body/Covers
A	Cast iron
B	Bronze
C	Carbon steel
D	Ductile Iron
E	Aisi 304
F	Aisi 316
G	Aisi 316L

Transmission of movement is normally of magnetic type for all the codes. Gaskets in teflon

Measuring Unit Materials

Code	Housing	Rotors
1	Bronze	Bronze
2	Bronze	Aluminium
3	Cast Iron	Aluminium
5	Cast Iron	Cast Iron
7	Aisi 304	Aisi 304
8	Aisi 316	Aisi 316
9	Aisi 316L	Aisi 316L

Bearings are normally made of carbon while rotor shafts and timing gears are in stainless steel.

Max Pressure

Code	MPa
A	1
L	2
M	6,2
H	11
X	>11

Portable 4" Master Meter

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Flow Rate Ranges (m^3/h)											
			Petroleum products				Water	Chemical products			
Mod.	Ø line	mPa.s / Service	> 0,5	2	10	150	T < 80 °C	Soda 30%	50	500	2000
51	25	Continuous	0,6 ÷ 2,5	0,5 ÷ 2,5	0,2 ÷ 3,5	0,05 ÷ 3,5	0,5 ÷ 2,3	0,2 ÷ 2,5	0,1 ÷ 3,5	0,02 ÷ 2,5	0,008 ÷ 2
	40	Intermittent	0,6 ÷ 3,5	0,5 ÷ 3,5	0,2 ÷ 4	0,05 ÷ 4	0,5 ÷ 2,8	0,2 ÷ 3,5	0,1 ÷ 4	0,02 ÷ 3,5	0,008 ÷ 2,5
11	25	Continuous	1 ÷ 4,5	0,8 ÷ 4,5	0,3 ÷ 6	0,07 ÷ 6	0,9 ÷ 4	0,3 ÷ 4,5	0,15 ÷ 6	0,04 ÷ 4,5	0,015 ÷ 3,5
	40	Intermittent	1 ÷ 6	0,8 ÷ 6	0,3 ÷ 7	0,07 ÷ 7	0,9 ÷ 5	0,3 ÷ 6	0,15 ÷ 7	0,04 ÷ 6	0,015 ÷ 4,5
12	40	Continuous	2 ÷ 9	1,5 ÷ 9	0,6 ÷ 13	0,15 ÷ 13	1,8 ÷ 8,5	0,6 ÷ 9	0,3 ÷ 13	0,08 ÷ 9	0,03 ÷ 7,5
	50	Intermittent	2 ÷ 13	1,5 ÷ 13	0,6 ÷ 15	0,15 ÷ 15	1,8 ÷ 10,5	0,6 ÷ 13	0,3 ÷ 15	0,08 ÷ 13	0,03 ÷ 9
22	50	Continuous	2,5 ÷ 14	2 ÷ 14	1 ÷ 20	0,25 ÷ 20	2,3 ÷ 13	1 ÷ 14	0,5 ÷ 20	0,12 ÷ 14	0,05 ÷ 12
	65	Intermittent	2,5 ÷ 20	2 ÷ 20	1 ÷ 24	0,25 ÷ 24	2,3 ÷ 16,5	1 ÷ 20	0,5 ÷ 24	0,12 ÷ 20	0,05 ÷ 14
53	50	Continuous	5 ÷ 25	4 ÷ 25	2 ÷ 35	0,5 ÷ 35	4,5 ÷ 22,5	2 ÷ 25	1 ÷ 35	0,25 ÷ 25	0,1 ÷ 20
	80	Intermittent	5 ÷ 35	4 ÷ 35	2 ÷ 40	0,5 ÷ 40	4,5 ÷ 28	2 ÷ 35	1 ÷ 40	0,25 ÷ 35	0,1 ÷ 25
13	50	Continuous	6,5 ÷ 35	5 ÷ 35	2,5 ÷ 50	0,6 ÷ 50	6 ÷ 34	2,5 ÷ 35	1,2 ÷ 50	0,3 ÷ 35	0,12 ÷ 30
	80	Intermittent	6,5 ÷ 50	5 ÷ 50	2,5 ÷ 60	0,6 ÷ 60	6 ÷ 42	2,5 ÷ 50	1,2 ÷ 60	0,3 ÷ 50	0,12 ÷ 35
14	80	Continuous	13 ÷ 65	10 ÷ 65	4,5 ÷ 90	1,2 ÷ 90	12 ÷ 60	4,5 ÷ 65	2,3 ÷ 90	0,6 ÷ 65	0,25 ÷ 55
	100	Intermittent	13 ÷ 90	10 ÷ 90	4,5 ÷ 110	1,2 ÷ 110	12 ÷ 75	4,5 ÷ 90	2,3 ÷ 110	0,6 ÷ 90	0,25 ÷ 65
24	80	Continuous	18 ÷ 90	14 ÷ 90	6 ÷ 125	1,5 ÷ 125	16 ÷ 80	6 ÷ 90	3 ÷ 125	0,75 ÷ 90	0,3 ÷ 75
	100	Intermittent	18 ÷ 125	14 ÷ 125	6 ÷ 150	1,5 ÷ 150	16 ÷ 100	6 ÷ 125	3 ÷ 150	0,75 ÷ 125	0,3 ÷ 90
16	100	Continuous	24 ÷ 110	18 ÷ 110	8 ÷ 150	2 ÷ 150	20 ÷ 100	8 ÷ 110	4 ÷ 150	1 ÷ 110	0,4 ÷ 90
	150	Intermittent	24 ÷ 150	18 ÷ 150	8 ÷ 180	2 ÷ 180	20 ÷ 125	8 ÷ 150	4 ÷ 180	1 ÷ 150	0,4 ÷ 110
18	150	Continuous	35 ÷ 150	25 ÷ 150	12 ÷ 210	3 ÷ 210	30 ÷ 140	12 ÷ 150	6 ÷ 210	1,5 ÷ 150	0,6 ÷ 125
	200	Intermittent	35 ÷ 210	25 ÷ 210	12 ÷ 250	3 ÷ 250	30 ÷ 175	12 ÷ 210	6 ÷ 250	1,5 ÷ 210	0,6 ÷ 150
28	150	Continuous	40 ÷ 190	30 ÷ 190	15 ÷ 270	4 ÷ 270	35 ÷ 180	15 ÷ 190	7,5 ÷ 270	2 ÷ 190	0,8 ÷ 160
	200	Intermittent	40 ÷ 270	30 ÷ 270	15 ÷ 320	4 ÷ 320	35 ÷ 225	15 ÷ 270	7,5 ÷ 320	2 ÷ 270	0,8 ÷ 190
110	200	Continuous	60 ÷ 270	40 ÷ 270	20 ÷ 380	4,5 ÷ 380	50 ÷ 260	20 ÷ 270	10 ÷ 380	2,5 ÷ 270	2,5 ÷ 230
	250	Intermittent	60 ÷ 380	40 ÷ 380	20 ÷ 450	4,5 ÷ 450	50 ÷ 315	20 ÷ 380	10 ÷ 450	2,5 ÷ 380	2,5 ÷ 265
112	250	Continuous	80 ÷ 350	60 ÷ 350	25 ÷ 500	6,5 ÷ 500	70 ÷ 330	25 ÷ 350	12,5 ÷ 500	3,5 ÷ 350	3,5 ÷ 295
	300	Intermittent	80 ÷ 500	60 ÷ 500	25 ÷ 600	6,5 ÷ 600	70 ÷ 415	25 ÷ 500	12,5 ÷ 600	3,5 ÷ 500	3,5 ÷ 350
212	250	Continuous	130 ÷ 600	100 ÷ 600	45 ÷ 850	10 ÷ 850	120 ÷ 570	45 ÷ 600	22,5 ÷ 850	5 ÷ 600	5 ÷ 500
	300	Intermittent	130 ÷ 850	100 ÷ 850	45 ÷ 1000	10 ÷ 1000	120 ÷ 700	45 ÷ 850	22,5 ÷ 1000	5 ÷ 850	5 ÷ 600
612	300	Continuous	160 ÷ 850	125 ÷ 850	60 ÷ 1200	14 ÷ 1200	140 ÷ 810	60 ÷ 850	30 ÷ 1200	7 ÷ 850	7 ÷ 715
	350	Intermittent	160 ÷ 1200	125 ÷ 1200	60 ÷ 1400	14 ÷ 1400	140 ÷ 1000	60 ÷ 1200	30 ÷ 1400	7 ÷ 1200	7 ÷ 840
114	350	Continuous	200 ÷ 1350	150 ÷ 1350	75 ÷ 2000	18 ÷ 2000	180 ÷ 1250	75 ÷ 1300	38 ÷ 2000	9 ÷ 1300	9 ÷ 1110
	400	Intermittent	200 ÷ 2000	150 ÷ 2000	75 ÷ 2160	18 ÷ 2160	180 ÷ 1500	75 ÷ 2000	38 ÷ 2160	9 ÷ 2000	9 ÷ 1250

Ø Line is the dimension of the flange coupled to the pipeline

Notes on Flange Identification Code

Flange size different from standard flange size identified from the digits just after the first digit of each model (i.e. 5**1**: 1" flange, 1**10**: 10" flange) are identified adding the below code after PD Flowmeter model:
- S:1/2", CD:3/4", A:1", AA: 1"1/4, AB:1"1/2, B:2", BC:2"1/2, C:3", D:4", F:6", H:8", L:10", P:14", R:16" (i.e model 16**D** is flanged 4")

Notes on Flow Rate Ranges

It is possible to use "PETROL" PD flowmeters outside specified flow rate ranges and viscosities but in such cases it is necessary to consult the factory. Intermittent service means up to 8 hours of operation per day (365 days per year), while Continuous service means more than 8 hours of operation per day (365 days peer year).
For liquid with a viscosity above 10 cP is normally specified a 1:10 flow rate range within the limits mentioned in the table.

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