Safe, precise and cost-effective metering

Low-pressure metering pumps up to over 1,000 l/h





www.prominent.com

Contents







Low-pressure metering pumps up to over 1,000 l/h

Thanks to the extensive diversity of its product range (dosing head, size, capacity, set up and control options), ProMinent® low-pressure metering pumps are capable of performing all metering tasks sustainably and environmentally-friendly, at the same time saving energy.

Get in touch with us and discover the manifold opportunities provided by ProMinent® low-pressure pumps.

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ProMinent







Our extensive product range – precise metering and unlimited reliability

You undoubtedly know ProMinent as a manufacturer of solenoid metering pumps? In fact, that is our origin and we are the global market leader in this product range. However, over the 50 years that we have been in existence, we have substantially extended our product range for our customers. Why? Because we know and understand that you, as our customers, do not simply want a product from us, rather a solution to your problem – and justifiably so.

Every industry "works" differently, that is to say, has its own unique peculiarities. We have adapted to this.

Expertise alone is not enough. Our customers are essential for ProMinent's success story. Their trust and the intensive exchange of ideas relating to their requirements and needs is what has made our success possible.

World market leadership brings obligations, such as the need for close exchanges with customers. This dialogue shows that the trend is moving towards more energy-efficient and environmentally-friendly technologies. ProMinent is reacting to this with manifold product developments. With energy-efficient products. This means that the future will bring many more innovations in the field of chemical metering and water treatment developed in Heidelberg. They all have only one goal: to exceed our customers' expectations.

Solenoid Driven Metering Pumps

Low-wear pumps for low capacities

Mode of operation

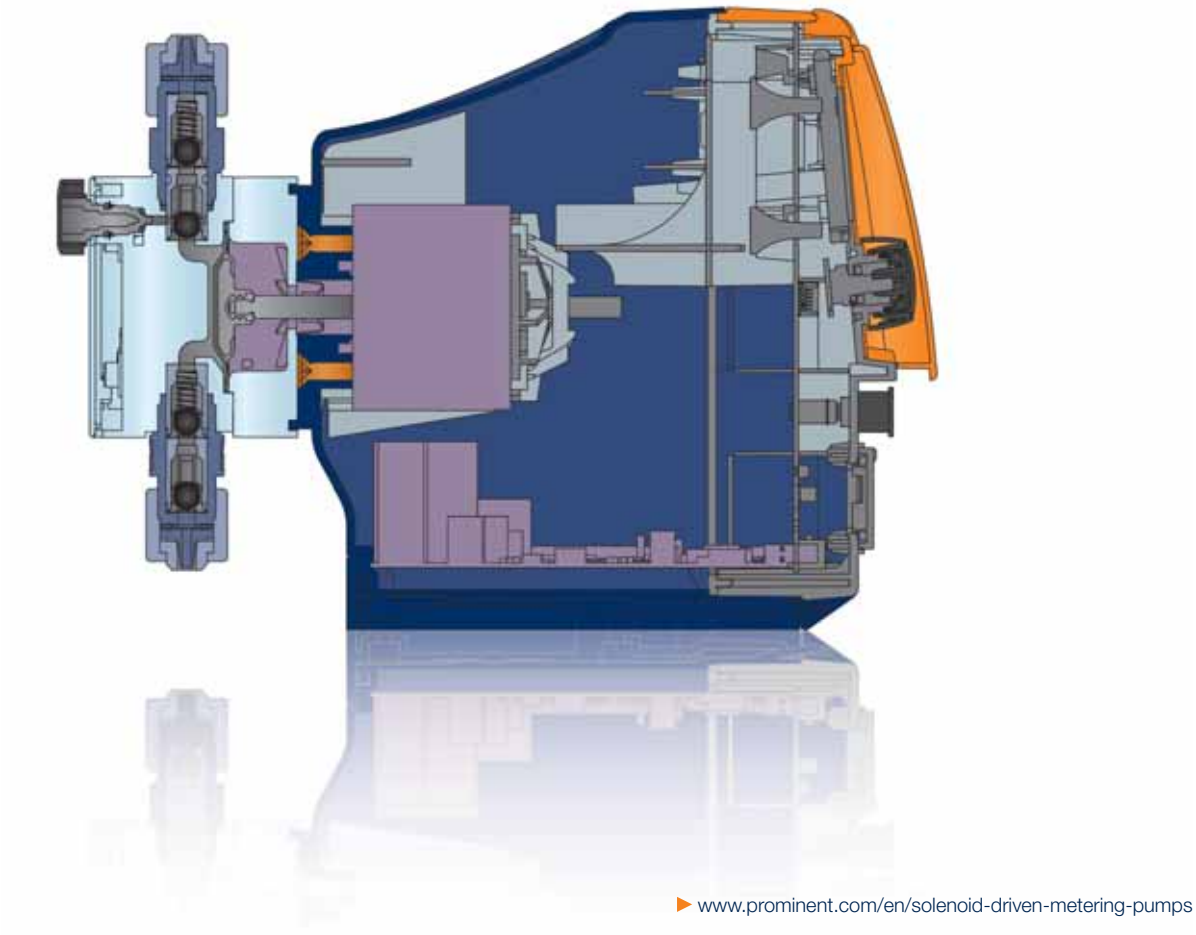
A magnet moves the solenoid shaft forwards and backwards by switching on and off. This stroke movement is transmitted to the diaphragm in the dosing head. Two non-return valves prevent the dosing medium flowing back during pumping. The stroke length and stroke rate can be adjusted to alter the capacity of a solenoid driven metering pump.

Features

- Capacity range: 1 to 75 l/h at 25 to 2 bar back pressure
- Virtually wear-free power end/drive, as only one moving part is used – the pump has no lubricated bearing or shafts
- Outstanding long-term stability
- Cost-effective technical alternative in the lower capacity range
- Maximum safety from overloading
- Low energy consumption thanks to excellent efficiency
- IP 65 degree of protection due to fully sealed housing

Applications

- General: Chemical metering in laboratories and in industry up to 75 l/h pump capacity
- Potable water and swimming pool water treatment: Metering of chemicals for disinfection and for pH correction
- General water treatment, water treatment of process water, industrial water and conditioning agents
- Cooling water circuits: Metering of disinfectants
- Mini-plant technology
- Paper industry, de-foamers
- Electroplating and surface treatment, pool additives, slide grinding systems



Motor Driven Metering Pumps

High dosing precision and robust technology

Mode of operation

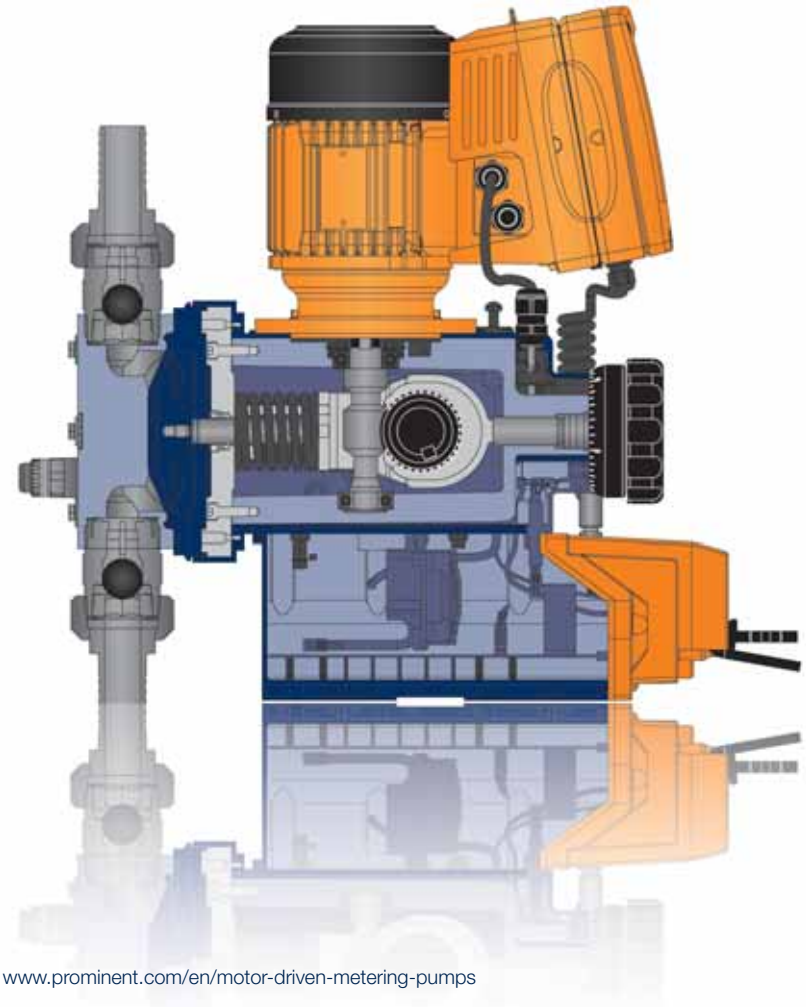
The rotation of an electric motor is stepped down by a worm gear and converted via a cam into a linear stroke movement. The slide rod transmits this stroke movement to the diaphragm in the dosing head. The feed chemical is prevented from flowing back during pumping by two non-return valves. The stroke length and stroke rate – in this instance the motor speed – can be adjusted to alter the capacity of a motor driven metering pump.

Features

- Extremely broad capacity range
- High dosing precision even under varying pressure conditions (rigid characteristic) enables chemicals to be reduced and ensures exact process control
- Robust and cost-effective power end/drive in higher capacity classes
- Simple integration and retrofitting into automated processes by flexible control via stroke length and motor speed control
- Maximum safety thanks to dual diaphragm system and integrated overload protection

Applications

- General: Chemical metering up to over 1,000 l/h
- Potable water treatment: Metering of disinfectants
- Cooling circuits: Metering of disinfectants
- Waste water treatment: Metering of flocculants
- Paper industry: Metering of additives
- Plastics production: Metering of additives





The wide range for reliability and precision

Motor driven metering pumps

alpha c
Robust and simple
Capacity range
1.0 – 30.6 l/h
10 – 2 bar

Vario C
Precise and reliable
Capacity range
8 – 76 l/h
10 – 4 bar

Sigma Basic and Control type
Safety as standard

Sigma/ 1
Capacity range
17 – 144 l/h
12 – 4 bar

Sigma/ 2
Capacity range
50 – 420 l/h
16 – 4 bar

Sigma/ 3
Capacity range
145 – 1,030 l/h
12 – 4 bar





Sigma Control type

Solenoid-driven metering pumps / Plunger pumps

Beta® b
The all-rounder

Capacity range
0.74 – 32 l/h
25 – 2 bar

gamma/ X
For versatile uses
Capacity range
1 ml – 45 l/h
25 – 2 bar

delta®
Capacity perfected
Capacity range
7.5 – 75 l/h
25 – 2 bar

mikro delta®
The specialist for micro-quantities
Capacity range
150 – 1,500 ml/h
60 – 20 bar









Pneumatically-driven metering pumps

Sigma hygienic pumps
Hygienic pumps with stainless steel pump heads in compliance with EHEDG

Sigma/ 2



Sigma/ 3



Pneumados
Ultra-simple handling
Capacity range
0.76 – 16.7 l/h
16 – 2 bar



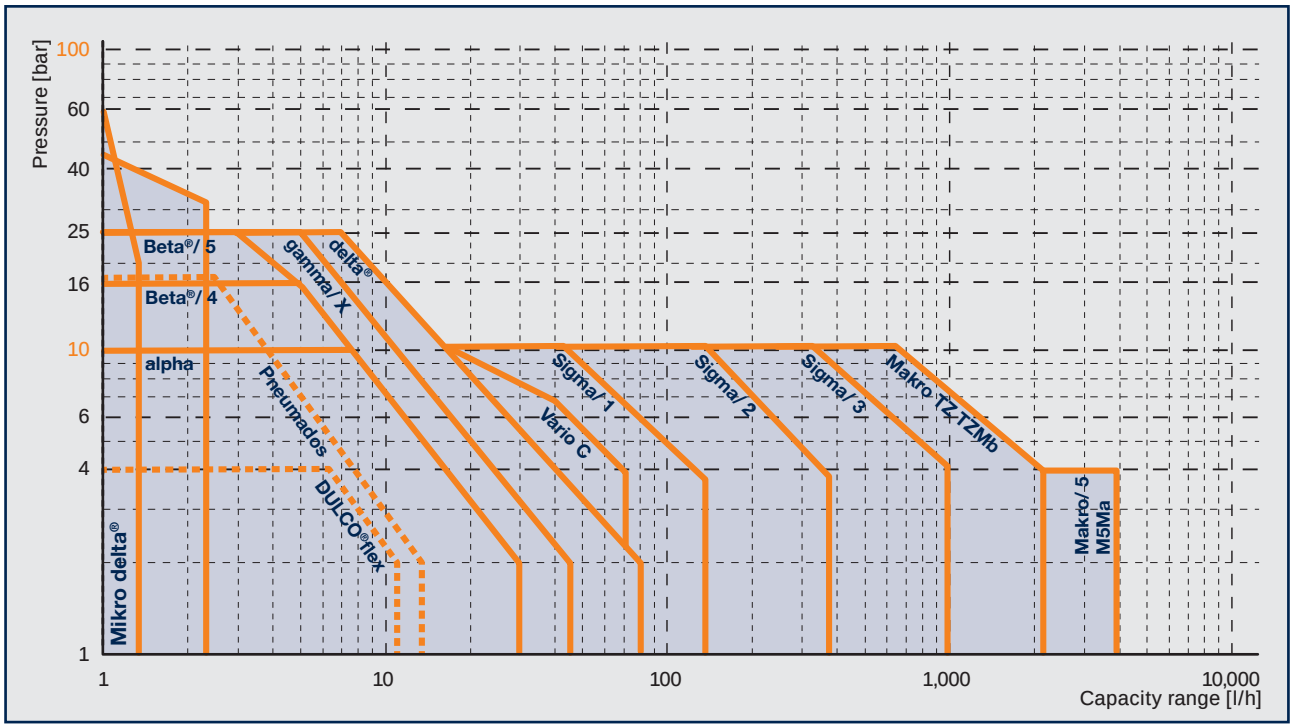
Peristaltic pumps

DULCO®flex
Precise and reproducible

DF2a
Capacity range 0.4/0.8/1.6/2.4 l/h
up to 1.5 bar
DF3a
Capacity range 0.4/0.8/1.6/2.4 l/h
up to 1.5 bar
DF4a
Capacity range 0.35/1.5/6.0/12.0 l/h
up to 4 bar



Capacity at a Glance Low-pressure metering pumps



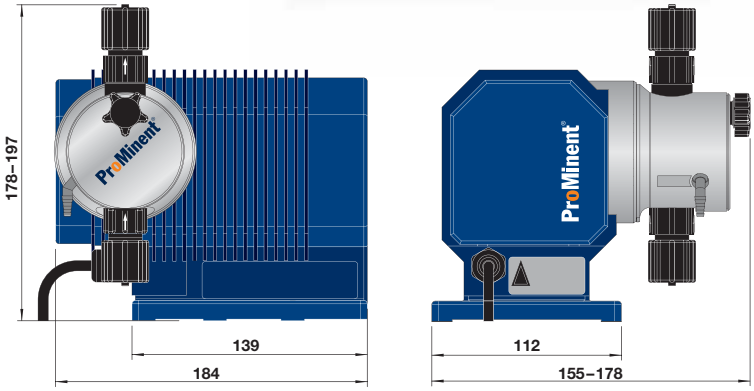
alpha c

Motor driven metering pumps



The economical solution for simple applications in the low capacity range.

- Capacity range 1.0–30.6 l/h, 10–2 bar
- Excellent priming capacity, gentle metering stroke and consistently precise metering
- Reliable operation even with gaseous media thanks to patented patented venting system
- Suitable for many applications due to two gear reduction ratios, four liquid end sizes and two material versions (PVDF, clear acrylic/PVC)
- Capacity can be adjusted via the stroke length in 10% increments
- Control via ON/OFF voltage supply



	Pump capacity with 50 Hz design			Stroke rate	Stroke length	Suction lift	Connector size
Pump type	bar	l/h	ml/stroke	Strokes/min	mm	mWs	a Ø x i Ø mm
ALPc 1001	10.0	1.0	0.29	30	2	5.1	6x4
ALPc 1002	10.0	1.8	0.52	58	2	5.1	6x4
ALPc 1004	10.0	3.5	1.01	58	3	5.1	8x5
ALPc 1008	10.0	7.7	1.00	128	3	5.1	8x5
ALPc 0707	7.0	6.9	1.98	58	3	4.1	8x5
ALPc 0417	4.0	17.0	2.51	128	3	4.1	8x5
ALPc 0230	2.0	30.6	3.98	128	3	3.1	12x9

60 Hz design approx. 20% more capacity

Wetted materials				
Design	Dosing head	Suction/pressure connector	Seals	Valve balls
PPE	Polypropylene	Polypropylene	EPDM	Ceramic
PPB	Polypropylene	Polypropylene	FPM	Ceramic
NPE	Clear acrylic	PVC	EPDM	Ceramic
NPB	Clear acrylic	PVC	FPM	Ceramic
PVT	PVDF	PVDF	PTFE	Ceramic

DEVELOPAN® diaphragms with PTFE support in all designs. FPM: fluorine rubber

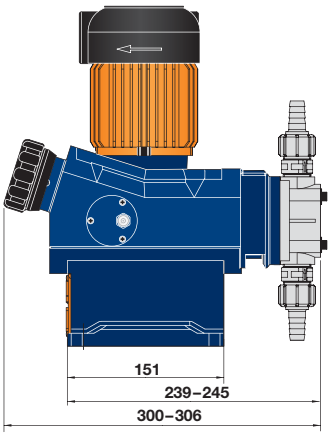


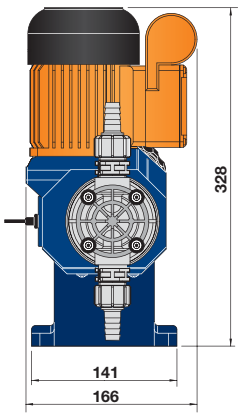
Vario C

Motor driven metering pumps

The basic pump for simple applications and continuous metering.

- Capacity range 8–75 l/h, 10–4 bar
- Excellent priming capacity, gentle metering stroke and consistently precise metering
- High level of process quality: Reproducibility of the metering is better than ±2 %
- Robust construction: powerful drive motor, impact-resistant and chemical-resistant housing made of fibreglass-reinforced plastic
- Good adaptation to the specific application, thanks to four different gear reduction ratios and two sizes of liquid ends in two material designs





Pump type	with 1500 rpm motor at 50 Hz operation, pump capacity at max. back pressure bar	l/h	ml/stroke	Stroke rate Strokes/min	Suction lift mWS	Reliable pre-pressure on suction side bar	Connector Suction/ discharge side G-DN
10008	10	8	4	38	7	2.8	3/4–10
10016	10	16	4	77	7	2.8	3/4–10
07026	7	26	4	120	7	2.8	3/4–10
07042	7	42	4	192	7	2.8	3/4–10
07012	7	12	5	38	6	1.7	3/4–10
07024	7	24	5	77	6	1.7	3/4–10
04039	4	40	5	120	6	1.7	3/4–10
04063	4	64	5	192	6	1.7	3/4–10

60 Hz design approx. 20% more capacity

Wetted materials

Material	Dosing head	Suction/pressure connector	Seals	Valve balls	Valve seat
PPE	PP	PP	EPDM	Ceramic	PP
PCB	PVC	PVC	FKM	Ceramic	PVC
PVT	PVDF	PVDF	PTFE	Ceramic	PTFE
SST	Stainless steel material no. 1.4404	Stainless steel material no. 1.4404	PTFE	Stainless steel material no. 1.4404	PTFE

DEVELOPAN® diaphragms with PTFE support in all designs. FPM: fluorine rubber

Sigma Basic type

Motor driven metering pumps

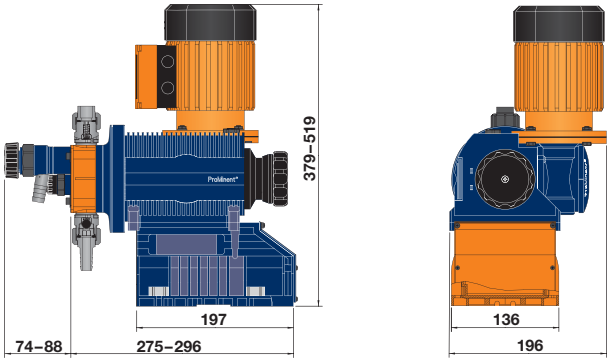
The right capacity for every application. There are two different types of the Sigma product range available (Basic type and microprocessor/ Control type).

The three versions differ in terms of their capacities:

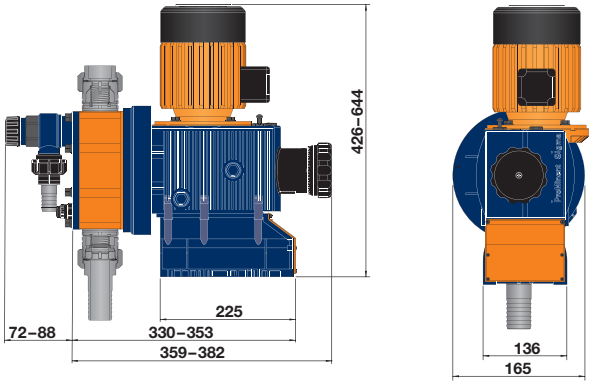
Sigma/ 1 17–144 l/h, 12–4 bar
Sigma/ 2 50–420 l/h, 16–4 bar
Sigma/ 3 146–1,030 l/h, 12–4 bar

- Process safety thanks to dual diaphragm with diaphragm rupture warning system
- Reliable operation due to venting option
- Integrated relief valve protects against overloading
- Simplified management of spare parts when using the Sigma product range
- For volume-proportional, time-controlled, pulse-controlled and measurement-dependent metering

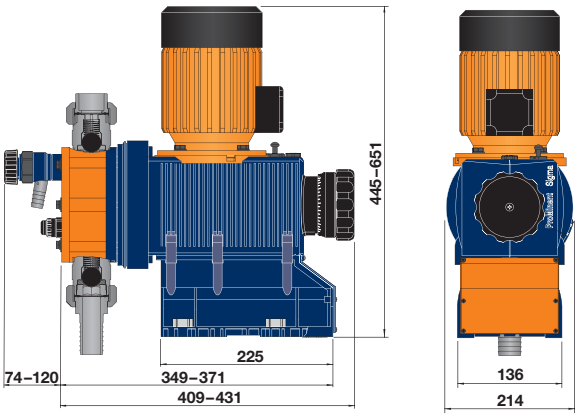
Sigma/ 1



Sigma/ 2



Sigma/ 3





	Pump capacity at max. back pressure								
	with motor operating at 1,500 rpm at 50 Hz operation			with motor operating at 1,800 rpm at 60 Hz operation		Stroke rate	Suction lift	Reliable pre-pressure on suction side	Connector Suction/ discharge side
Pump type	bar	l/h	ml/stroke	psi	l/h	Strokes/min	mWS	bar	G-DN
Sigma/ 1 Basic Type (S1Ba)									
12017	12	17	3.8	174	20	88	7	1	¾ – 10
12035	12	35	4.0	174	42	172	7	1	¾ – 10
10050	10	50	4.0	145	60	246	7	1	¾ – 10
10022	10	22	5.0	145	26	88	6	1	¾ – 10
10044	10	44	5.1	145	53	172	6	1	¾ – 10
07065	7	65	5.2	102	78	246	6	1	¾ – 10
07042	7	42	9.6	102	50	88	3	1	1 – 15
04084	4	84	9.7	58	101	172	3	1	1 – 15
04120	4	120	9.7	58	144	246	3	1	1 – 15
Sigma/ 2 Basic Type (S2Ba)									
16050	16	47	11.4	232	57	87	7	3	1 – 15
16090	16	88	11.4	232	98	158	7	3	1 – 15
16130	16	124	10.9	232	148	238	7	3	1 – 15
07120	7	126	27.4	100	150	87	5	1	1½ – 25
07220	7	220	27.7	100	264	158	5	1	1½ – 25
04350	4	350	29.4	58	420	238	5	1	1½ – 25
Sigma/ 3 Basic Type (S3Ba)									
120145	12	146	33.7	174	174	86	2	5	1½ – 25
120190	12	208	33.7	174	228	124	2	5	1½ – 25
120270	12	292	33.8	174	324	173	2	5	1½ – 25
120330	12	365	33.8	174	–	–	2	5	1½ – 25
070410	7	410	95.1	100	492	86	1	4	2 – 32
070580	7	580	95.1	100	696	124	1	4	2 – 32
040830	4	830	95.1	58	1,000	173	1	3	2 – 32
041030	4	1,030	95.1	58	–	–	1	3	2 – 32

Dosing head, PVDF design, max. 10 bar.

Wetted materials					
Material	Dosing head	Suction/ pressure connector	Seals/ball seat	Valve balls	Integrated relief valve
Sigma/ 1 + Sigma/ 2					
PVT	PVDF	PVDF	PTFE/PTFE	Ceramic	PVDF/FPM or EPDM
SST	Stainless steel material no. 1.4404	Stainless steel material no. 1.4581	PTFE/PTFE	Stainless steel material no. 1.4404	Stainless steel/FPM or EPDM

		DN 25 ball valves		DN 32 plate valves				
Material	Suction/pressure connection of dosing head	Seals	Valve balls	Valve seats	Seals	Valve plates/ valve springs	Valve seats	Integral relief valve
Sigma/ 3								
PVT	PVDF	PTFE	Glass	PTFE	PTFE	Ceramic/ Hast C. + CTFE	PTFE	PVDF/FPM or EPDM
SST	Stainless steel material no. 1.4404	PTFE	Stainless steel material no. 1.4404	PTFE	PTFE	Stainless steel 1.4404/Hast C.	PTFE	Stainless steel/ FPM or EPDM

DEVELOPAN® diaphragms with PTFE support in all designs. FPM: fluorine rubber
Alternative material versions available on request.

Sigma Control type

Motor driven metering pumps

The possible control via contact or analogue signals (e.g. 0/4 – 20 mA) possible with the Sigma Control type ensures good adaptation, even to different metering tasks.

The control also measures the movement and speed profile in conjunction with the power demand. This leads to a real reduction in the power actually required and results in a significant increase in efficiency. Moreover, an analysis of the energy requirement facilitates the internal overload shut-down of the metering pump, i.e. an integral pressure relief function for pump protection without an additional hydraulic assembly, such as relief valves and manometer.

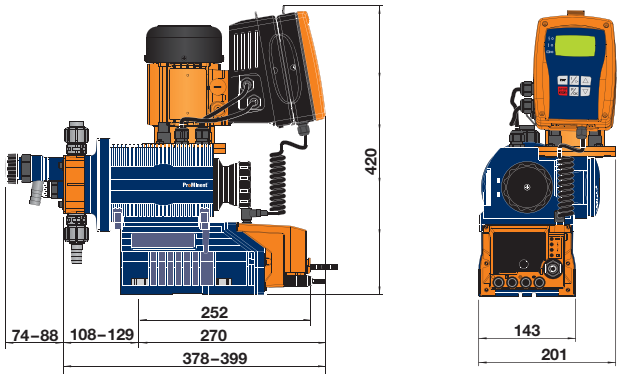
The three versions differ in terms of their capacities:

Sigma/ 1 17–117 l/h, 12–4 bar
Sigma/ 2 61–353 l/h, 16–4 bar
Sigma/ 3 182–1,040 l/h, 12–4 bar

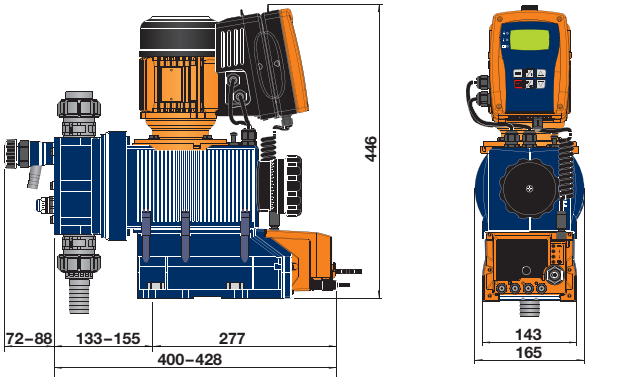
Further to the features of the Sigma Basic type, the Sigma Control type offers further options for process optimisation:

- Simple operation with large illuminated LC display
- Problem-free integration into bus-networked systems thanks to PROFIBUS® DP or CAN-open interface

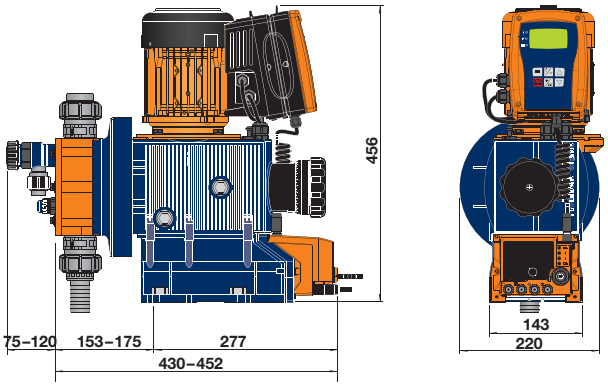
Sigma/ 1



Sigma/ 2



Sigma/ 3





Pump type	Pump capacity at max. back pressure bar	l/h	ml/stroke	Stroke rate Strokes/min	Suction lift mWS	Reliable pre-pressure on suction side bar	Connector Suction/ discharge side G-DN
Sigma/ 1 Control type (S1Cb)							
12017	12	21	3.9	90	7	1	¾–10
12035	12	42	4.0	170	7	1	¾–10
10050	10	49	4.0	200	7	1	¾–10
10022	10	27	5.1	90	6	1	¾–10
10044	10	53	5.1	170	6	1	¾–10
07065	7	63	5.1	200	6	1	¾–10
07042	7	52	9.5	90	3	1	1–15
07084	4	101	9.7	170	3	1	1–15
04120	4	117	9.7	200	3	1	1–15
Sigma/ 2 Control type (S2Cb)							
16050	16	56	11.4	90	7	3	1–15
16090	16	99	11.4	160	7	3	1–15
16130	16	129	10.9	200	7	3	1–15
07120	7	150	27.4	90	5	1	1½–25 [1]
07220	7	271	27.7	160	5	1	1½–25 [1]
04350	4	353	29.4	200	5	1	1½–25 [1]
Sigma/ 3 Control type (S3Cb)							
120145	12	182	33.7	90	5	2	1½–25
120190	12	243	33.7	120	5	2	1½–25
120270	12	365	33.8	180	5	2	1½–25
070410	7	500	95.1	90	4	1	2–32
070580	7	670	95.1	120	4	1	2–32
040830	4	1,040	95.1	180	3	1	2–32

Dosing head, PVDF design, max. 10 bar.

Wetted materials

Material	Dosing head	Suction/ pressure connector	Seals/ball seat	Valve balls	Integrated relief valve
Sigma/ 1 + Sigma/ 2					
PVT	PVDF	PVDF	PTFE/PTFE	Ceramic	PVDF/FPM or EPDM
SST	Stainless steel material no. 1.4404	Stainless steel material no. 1.4581	PTFE/PTFE	Stainless steel material no. 1.4404	Stainless steel/FPM or EPDM

Material	Suction/pressure connection of dosing head	DN 25 ball valves Seals	DN 25 ball valves Valve balls	DN 25 ball valves Valve seats	DN 32 plate valves Seals	DN 32 plate valves Valve plates/ valve springs	DN 32 plate valves Valve seats	Integrated relief valve
Sigma/ 3								
PVT	PVDF	PTFE	Glass	PTFE	PTFE	Ceramic/ Hast C. + CTFE	PTFE	PVDF/FPM or EPDM
SST	Stainless steel material no. 1.4404	PTFE	Stainless steel material no. 1.4404	PTFE	PTFE	Stainless steel 1.4404/Hast C.	PTFE	Stainless steel/ FPM or EPDM

DEVELOPAN® diaphragms with PTFE support in all designs. FPM: fluorine rubber
Alternative material versions available on request.

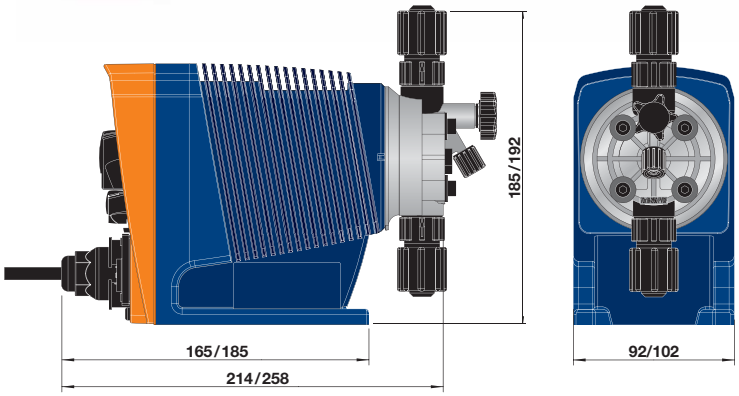
Beta® b

Solenoid driven metering pumps



The first choice for modern water treatment and chemical metering.

- Capacity range 0.74–32 l/h, 25–2 bar
- up to 50 % energy-savings through improved efficiency
- Adjustable, integrated pulse step-up and step-down for optimum adaptation to external signal generators
- Dosing heads to suit all chemicals ensure all-purpose use
- Virtually wear-free power end/drive
- Outstanding long-term stability
- Optional: Relay module can be quickly and simply retrofitted
- Input for level switch



Pump type	Pump capacity at max. back pressure bar	l/h	ml/stroke	Stroke rate Strokes/min	Suction lift mWs	Connector size a Ø x i Ø mm	medium power consumption W
BT4b 1000	10	0.74	0.07	180	6.0	6x4	7.2
BT4b 1601	16	1.10	0.10	180	6.0	6x4	9.6
BT4b 1602	16	2.20	0.20	180	6.0	6x4	11.2
BT4b 1604	16	3.80	0.33	180	6.0	6x4	15.2
BT4b 0708	7	7.10	0.66	180	6.0	8x5	15.2
BT4b 0413	4	12.30	1.14	180	3.0	8x5	15.2
BT4b 0220	2	19.00	1.76	180	2.0	12x9	15.2
BT5b 2504	25	2.90	0.27	180	6.0	8x4 [1]	19.2
BT5b 1008	10	6.80	0.63	180	6.0	8x5	19.2
BT5b 0713	7	11.00	1.02	180	4.0	8x5	19.2
BT5b 0420	4	17.10	1.58	180	3.0	12x9	19.2
BT5b 0232	2	32.00	2.96	180	2.0	12x9	19.2

Beta® b metering pumps are also available with a self-venting dosing head and for higher viscous media.
Pressure-reduced pump types are available in the pressure stages 4, 7 and 10 bar for special applications, for example in the swimming pool sector.
Suction lift with a filled dosing head and filled suction line, with a self-bleeding dosing head with air in the suction line.
1) With stainless steel design 6 mm connector width.

Wetted materials				
Design	**Dosing head**	**Suction/pressure connector**	**Seals**	**Valve balls**
PPT	Polypropylene	PVDF	PTFE	Ceramic
NPT	Clear acrylic	PVDF	PTFE	Ceramic
PVT	PVDF	PVDF	PTFE	Ceramic
TTT	PTFE + carbon	PTFE + carbon	PTFE	Ceramic
SST	Stainless steel material no. 1.4404	Stainless steel material no. 1.4404	PTFE	Ceramic

DEVELOPAN® diaphragms with PTFE support in all designs.

▶ www.prominent.com/en/solenoid-driven-metering-pumps

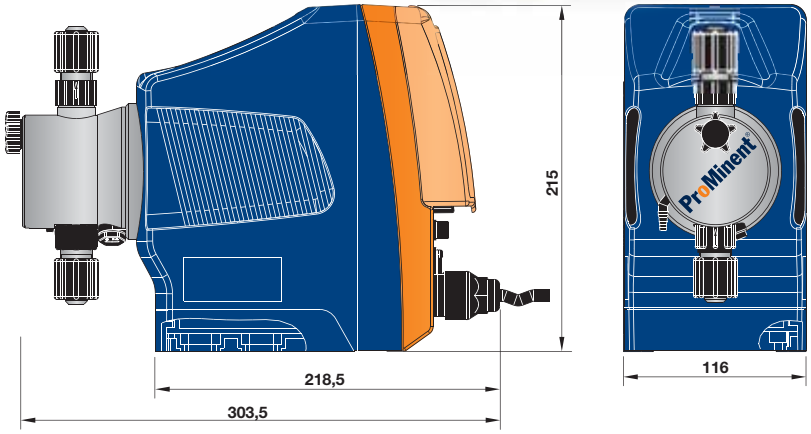
gamma/ X

Solenoid driven metering pumps

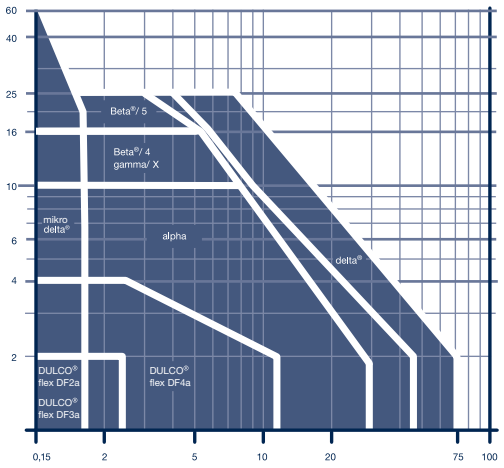


The gamma/ X is ideal for all metering work involving liquid media.

- Capacity range 1 ml–45 l/h, 25–2 bar
- Simple adjustment of the capacity directly in l/h
- Trouble-free processes by the detection of hydraulic malfunctions or blocked discharge lines
- Integrated pressure measurement and display for greater safety during commissioning and in the process
- Integrated 7-day timer for timed metering tasks
- Connection to process control systems via bus interfaces, such as Profinet, CAN bus, from the 3rd quarter of 2015, others on request



Pump type	Pump capacity at maximum back pressure bar	l/h	ml/stroke	Stroke rate Strokes/min	Suction lift mWs	Connector size a Ø x i Ø mm
GMXa 1602	16	2.3	0.19	200	6.0	6 x 4
GMXa 1604	16	3.6	0.30	200	6.0	6 x 4
GMXa 0708	7	7.6	0.63	200	6.0	8 x 5
GMXa 0414	4	14.0	1.17	200	3.0	8 x 5
GMXa 0220	2	19.7	1.64	200	2.0	12 x 9
GMXa 2504	25	3.8	0.32	200	6.0	8x4 [1]
GMXa 1009	10	9.0	0.75	200	6.0	8 x 5
GMXa 0715	7	14.5	1.21	200	4.0	8 x 5
GMXa 0424	4	24.0	2.00	200	3.0	12 x 9
GMXa 0245	2	45.0	3.70	200	2.0	12 x 9



gamma/ X metering pumps are also available with self-bleeding dosing head and for higher-viscosity media.
Suction lift with a filled dosing head and filled suction line, with a self-bleeding dosing head with air in the suction line.
1) With stainless steel design 6 mm connector width.

Wetted materials Design	Dosing head	Suction/pressure connector	Seals	Valve balls
PPE	Polypropylene	Polypropylene	EKDM	Ceramic
PPB	Polypropylene	Polypropylene	FKM	Ceramic
PPT	Polypropylene	Polypropylene	PVDF	Ceramic
NPE	Clear acrylic	PVC	EKDM	Ceramic
NPB	Clear acrylic	PVC	FKM	Ceramic
NPT	Clear acrylic	PVC	PVDF	Ceramic
PVT	PVDF	PVDF	PVDF	Ceramic
TTT	PTFE with carbon	PTFE with carbon	Ceramic	Ceramic
SST	Stainless steel material no. 1.4404	Stainless steel material no. 1.4404	Ceramic	Ceramic

DEVELOPAN® diaphragms with PTFE support in all designs.

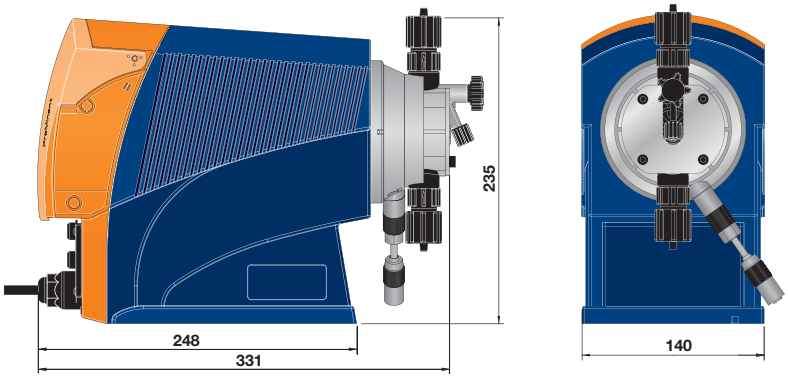
delta®



Solenoid driven metering pumps

High-end technology for the most challenging demands and widest range of applications. The world's first metering pump with a controlled solenoid drive (optoDrive®).

- Capacity range 7.5 – 75 l/h, 25 – 2 bar
- Excellent efficiency by saving on accessories, such as pulsation dampers, flow control etc.
- Flexible adaptation to the metering task with optimum accuracy
- The integrated injection point monitoring system (optoGuard®) detects hydraulic failures, which can be transmitted via an optional relay
- Manifold control options ensure that it can be used in virtually all applications
- Optional connection via PROFIBUS® or CANbus to the central control point
- Use as a central control unit with a "Process Timer" option, therefore no need for a PLC



Pump type	Pump capacity bar	l/h	ml/stroke	Stroke rate Strokes/min	Suction lift mWs	Connector size a Ø x i Ø mm
DLTA 2508	25	7.5	0.62	200	5	8x4 [1]
DLTA 1608	16	7.8	0.65	200	5	8x5 [1]
DLTA 1612	16	11.3	0.94	200	5	8x5
DLTA 1020	10	19.1	1.59	200	5	12x9
DLTA 0730	7	29.2	2.43	200	5	12x9
DLTA 0450	4	49.0	4.08	200	3	G¾ – DN10
DLTA 0280	2	75.0	6.25	200	2	G¾ – DN10

Suction lift (mWS) = suction lift with a filled dosing head and filled suction line

1) 6 mm connection width with stainless steel design

Wetted materials Design	Dosing head	Suction/pressure connector	Seals	Valve balls
NPE	Clear acrylic	PVC	EPDM	Ceramic
NPB	Clear acrylic	PVC	FPM	Ceramic
PVT	PVDF	PVDF	PTFE	Ceramic
SST	Stainless steel material no. 1.4404	Stainless steel material no. 1.4404	PTFE	Ceramic

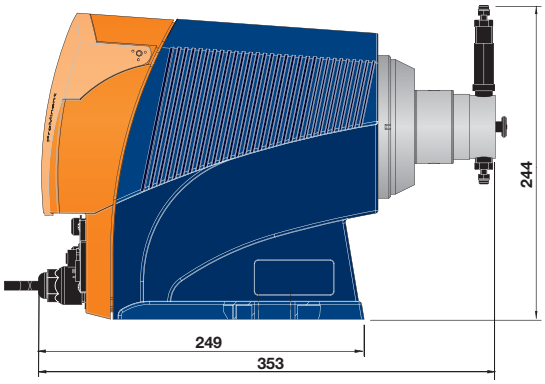
mikro delta®

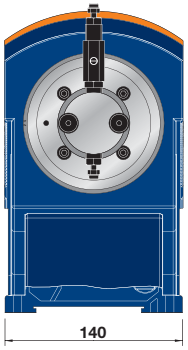


Precision plunger metering pumps

Metering ultra-small quantities continuously, ultra-precisely and reliably – not a problem for the latest generation of pumps.

- Capacity range 150–1,500 ml/h, 60–20 bar
- Stroke volume from 1–250 µl
- Material versions PTFE and stainless steel
- Large illuminated graphic display
- Optional external control via contacts, mA, PROFIBUS® or CANopen (optional)
- Continuous or pulsing operation
- Precisely controlled metering process with regulated solenoid drive





Pump type	Pump capacity at max. back pressure bar	ml/h	µm/stroke	Plunger Ø mm	Hose connector size mm	Connector size Pipe mm	Suction lift mWS	Back pressure valve Holding pressure bar
Material version TT								
100150 TT	10	145	24.17	2.5	1.75x1.75	-	6	2.5
100600 TT	10	580	96.67	5	1.75x1.75	-	6	2.5
101500 TT	10	1,480	246.67	8	3.20x2.40	-	4	1.5
Material version SS								
600150 SS	60	145	24.17	2.5	1.75x1.75	1.58	6	2.5
400600 SS	40	580	96.67	5	1.75x1.75	1.58	6	2.5
201500 SS	20	1,480	246.67	8	3.20x2.40	3.18	4	1.5

Suction lift with a filled suction line and filled liquid end.

Wetted materials							
Material	Dosing head	Suction/ Pressure connector	Valve balls	Valve seats	Plunger	Valve seals	Plunger seals
TTT	PTFE + carbon	PTFE + carbon	Ruby	Ceramic	Ceramic	PTFE	PTFE, white
TTG	PTFE + carbon	PTFE + carbon	Ruby	Ceramic	Ceramic	PTFE	PTFE + graphite
SST	Stainless steel material no. 1.4571	Stainless steel material no. 1.4571	Ruby	Ceramic	Ceramic	PTFE	PTFE, white
SSG	Stainless steel material no. 1.4571	Stainless steel material no. 1.4571	Ruby	Ceramic	Ceramic	PTFE	PTFE + graphite

Pneumados

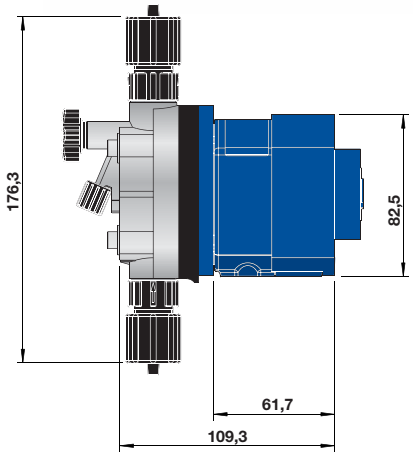


Pneumatically-driven diaphragm metering pumps

The standard solution for simple metering tasks wherever no electrical power is available.

- Capacity range 0.76–16.7 l/h, 16–2 bar
- Continuous stroke length adjustment
- Material versions PTFE and stainless steel
- Stroke rate of up to 180 strokes/min

Typical applications
- Car-washing systems
- Animal feed treatment
- Bottle disinfection in bottling plants



Pump type	Pump capacity at max. back pressure bar	l/h	ml/stroke	Stroke rate Strokes/min	Suction lift mWs	Connector size a Ø x i Ø mm
PNDb 1000	10	0.76	0.07	180	6.0	6x4
PNDb 1601	16	1.00	0.09	180	6.0	6x4
PNDb 1602	16	1.70	0.16	180	6.0	6x4
PNDb 1005	10	3.80	0.35	180	5.0	8x5 [1)]
PNDb 0708	7	6.30	0.58	180	4.0	8x5
PNDb 0413	4	10.50	0.97	180	3.0	8x5
PNDb 0220	2	16.70	1.55	180	2.0	12x9

1) With stainless steel design 6 x 4 mm

Wetted materials Design	Dosing head	Suction/pressure connector	Seals	Valve balls
PVT	PVDF	PVDF	PTFE	Ceramic
SST	Stainless steel material no. 1.4404	Stainless steel material no. 1.4404	PTFE	Ceramic

DULCO®flex

Peristaltic pumps

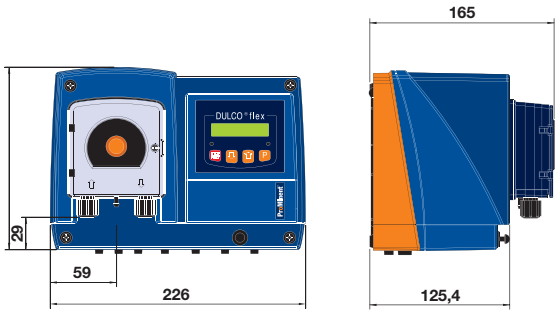


The best solutions are simple. The optimum pump for typical use in swimming pools, Jacuzzis and spa and wellness facilities.

DF2a for private swimming pools
DF3a for fragrances in saunas
DF4a for private and public swimming pools, and for general chemical metering.

- Capacity range 0.4–12 l/h, 4–1.5 bar
- Virtually silent operation
- Simple and safe to operate
- Efficient operation through “eco mode” possible
- Service-friendly design
- Spring-mounted rollers for uniform roller pressure and increased service life of the hose

DULCO®flex DF4a



Pump type	Pump capacity bar	l/h	Speed rpm	Suction lift mWS	Priming lift mWS	Connector size a Ø x i Ø mm
DULCO®flex DF2a						
0204	1.5	0.4	5	4	3	6x4/10x4
0208	1.5	0.8	10	4	3	6x4/10x4
0216	1.5	1.6	20	4	3	6x4/10x4
0224	1.5	2.4	30	4	2	6x4
DULCO®flex DF3a						
0204	1.5	0.4	5	4	2	6x4
0208	1.5	0.8	10	4	2	6x4
0216	1.5	1.6	20	4	2	6x4
0224	1.5	2.4	30	4	2	6x4
DULCO®flex DF4a						
04004	4.0	0.4	0–85	4	3	6x4/10x4
04015	4.0	1.5	0–85	4	3	6x4/10x4
03060	2.5	6.0	0–85	4	3	6x4/10x4
02120	2.0	12.0	0–85	4	3	6x4/10x4

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