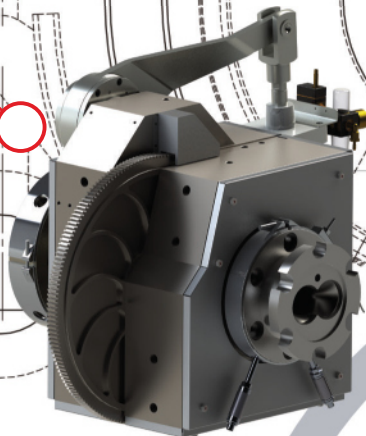


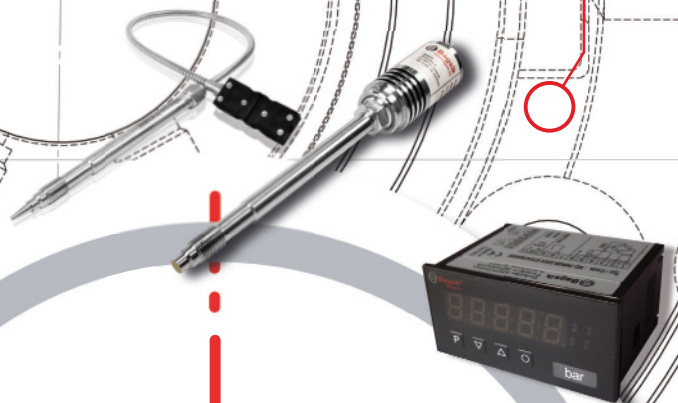
# Bagsik®

[www.bagsik.net](http://www.bagsik.net)

Screen changers



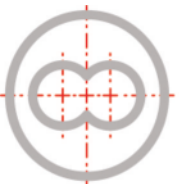
Measurement technology



Filtration screens















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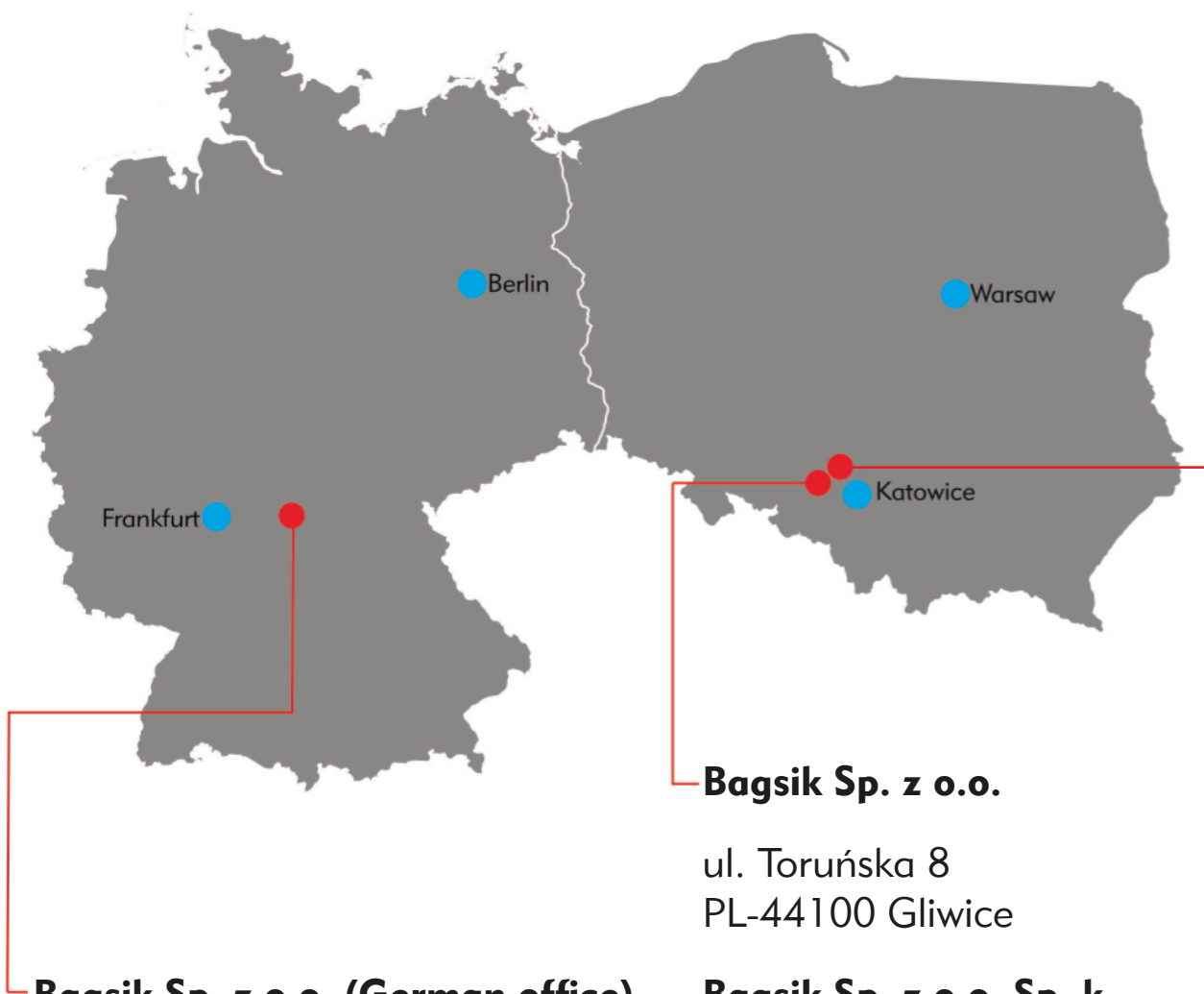
-  **1** **Melt pressure transducers**  
series: CDA, CDAI, CDTA, CDTAI, GP 
-  **2** **Melt temperature sensors**  
series: TFC, TFL, THERMOCOUPLE 
-  **3** **Display, regulator, amplifier**  
series: DMV, BGK, PZ5 
-  **4** **Screen changers, PVC granulation**  
series: ROTATION, PISTON, SLIDIND PLATE 
-  **5** **Filtration screens**  
SQUARE MESH, SCREEN DISK, SPIGATA 
-  **6** **Partners** 



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**Bagsik Sp. z o.o.** company with the registered office at Gliwice was created on 01.09.1999 as a consulting office within plastic processing and filtration. At 2018 **Bagsik Sp. z o.o. Sp. k.** was created and at 2021 we have made new office in Zabrze.

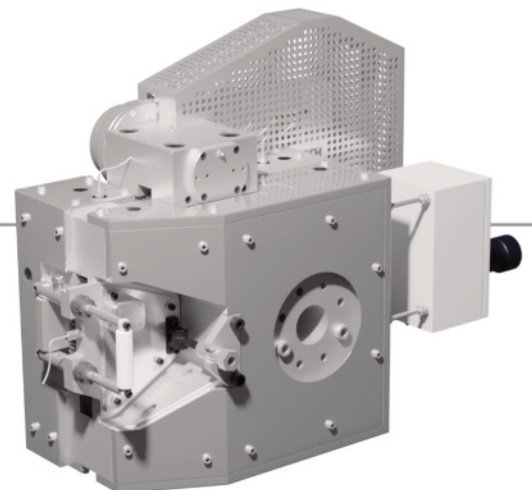
We offer new and used filtration system (screen changers) and repair services for all types and their complex technical services. Additionally, we also offer repair services together with spare parts.

We have our own design office (with SOLIDWORKS) and we offer consultancy within technical solutions in machine facilities of plastic processing with the emphasis on the filtering process.

Thanks to our **24-hour service**, we have been quickly appreciated as specialists in plastics filtration and as suppliers of the peripheral equipment, including manual, semi-automatic, automatic and self-cleaning screen changers.

In our offer, You can find the following elements:

- Recycling lines for plastics waste, including hard PVC (window profiles, windows)
- High quality measurement of the mass of plastics which comprises in melt pressure and temperature transducers
- Indicators for pressure measurement and melt temperature
- Filtration system (screen changers: new and used)
- Melt pumps for plastic processing
- Dies for film, blow film and multilayers film
- Single or multilayer steel or stainless steel(inox) screens
- Thermocouples to measure the temperature of heated elements
- Temperature regulators
- Cleaning paste for metal parts made of plastic contaminations
- Regrinds mainly of: PET, PC and PA
- Plugs, reducer bushes, gauge pressure plug
- Lines for plastic technology, used and after renovation
- MFI and MFR measuring devices
- Granulation systems including Hard PVC



We are the trade representative of the following companies:

- **Brabender Technologie GmbH & Co. KG // [www.brabender-technologie.com](http://www.brabender-technologie.com)**  
Feeding, weighing, gravimetric, volumetric and belt scales, flow meters, silos and bulk bags discharging. Liquid and loose material feeders for food, plastic industry etc.
- **IPS Intelligent Pelletizing Solutions & GmbH Co KG // [www.pelletizing.de](http://www.pelletizing.de)**  
Strand die heads, strand cooling systems, pelletizing systems, underwater pelletizing systems, pellet dryers etc.
- **Oerlikon Barmag - Oerlikon Textile GmbH & Co. KG // [www.pumps.barmag.com](http://www.pumps.barmag.com)**  
Gear pumps for adhesives, gear pump for conveying, gear pump for metering, gear pump for paint, gear pump for vacuum
- **X-compound GmbH // [www.x-compound.ch](http://www.x-compound.ch)**  
Continuous kneaders, tailored compounding plants for the processing of temperature and shear sensitive materials.

We have consulting and commercial offices in Poland, Germany, Ukraine. More information at: [www.bagsik.net](http://www.bagsik.net)





# Pressure Measurement



**Example of connections of particular elements**

**Pressure measurement**

CDA

CAI

GP



**Pressure display units**

DMV 5000

DMV 4000

DMV 2001  
DMV 2002



DMV 2001 (230V)  
DMV 2002 (24V)  
DMV 4000 (in option)

(output signal)

0-10 V  
0-20 mA  
4-20 mA



Computer control

**Pressure and temperature measurement**

CDTA

CDTAI



**Temperature display units**

BGK85



## Melt pressure control and measurement

The security of the process and the quality assurance are the basic problems of the modern production in plastic processing industry. In order to meet this philosophy, our company does its best to support our dear customers in maintaining technically the most up-to-date level.

High repetition rate transducers and easy to operate displays (pressure gauges and regulators) serve the above mentioned purpose. All these needs are satisfied by our measurement technology. Thanks to the use of high quality materials and continuous technical control, our products are qualified as the best on the global market.

The constant innovation and new products launching, as well as our Customer's satisfaction are and will be our the most important objectives.

**For standard transducers regulators and filter screens, we assure the delivery of the ordered products within 24 hours from the moment of order placement**

### Pressure measurement

Melt pressure transducers were used for the first time in 1950s. Until recently they were protected by patent which affected their availability and price on the market. Nowadays, they are available and produced by different manufacturers. Used for constant pressure measurement. Principles of transducer operation are based on tensometric technology. Pressure transmission from built-in membrane flow canal takes place through closed capillary system filled with mercury, NaK or oil. The capillary is finished with a second membrane with a built-in tensometer which changes linearly electrical resistance accompanied by the pressure change. The proportional resistance change is used to make measurements. For transducers with built-in amplifiers we obtain normalised final signals (0-10 VDC, 0-20 mA or 4-20 mA).

Pressure transducers function as security devices for extruders in case of dangerous pressure excess which may lead to the extruder damage. Through border signals the extruder's driving system may be switched off once the pre-defined pressure is exceeded.

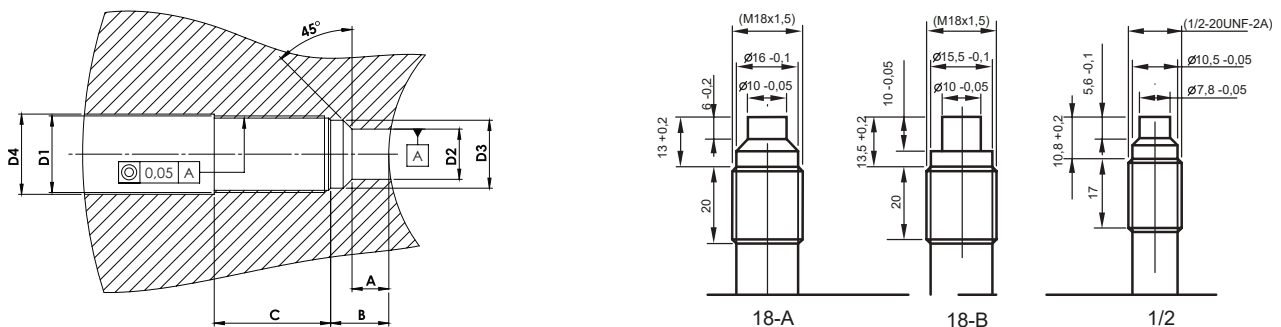
For this reason, every production line, for its own security, should be equipped with at least one pressure transducer or one rupture disc.

### Transducer installation

To make a hole to install the transducer, special tools and high skills are required.

High tolerance and surface quality maintenance is difficult. For this reason, we suggest using reducer sleeves.

Dimension	Thread		
	M18 x 1.5 mm	M14 x 1.5 mm	1/2" - 20UNF-2A
	M18 x 1.5 mm	M14 x 1.5 mm	1/2" - 20UNF-2A
D2	Ø 10.1 +0.1	Ø 7.9 +0.1	Ø 7.9 +0.1
D3	Ø 16.1 +0.2	Ø 12 +0.1	Ø 10.7 +0.1
D4	Ø 20 +0.2	Ø 14.5 +0.2	Ø 13 +0.2
A	6.1 -0.1	6 -0.1	5.7 -0.1
B	10 -0.2	4 -0.2	3.2 -0.2
C	25	19	19





## Transducer installation

**Screen changer** - through the measurement of pressure differences before and after changes, we are sure when filter screen change should take place. A transducer installed at the end of the extruder allows to plan the moment of screen change (e.g. after extrusion of the necessary section length).

**Melt pump** – when using pumps, pressure differences must be always measured before and after the pump. A correct pressure measurement protects the pump against damages and it helps to increase the extruder’s performance.

**Die** – an optimum place to install the transducer. In the die, the transducer indicates pressure necessary to obtain a correct section. Pressure and temperature are the main parameters influencing the material flow and quality. We use both parameters to control material changes, quality, screw and barrel consumption and thermal technology changes. Pressure change has a predominant impact on final product dimensions.

## Warning !

Before the transducer installation, the dimensions of the mounting thread should be controlled in regard to correct dimension maintenance and tolerance. Additionally, the hole should not contain any contamination or material remnants. We recommend using the plug before screwing in the transducer in order to check the thread and copper paste for easier transducer unscrewing during the disassembly. The transducer should be screwed in sealing surface without using a spanner.

The moment of transducer installation for ½"-20UNF thread is 5 Nm, for M18x1,5 thread – 10 Nm.

## Pressure transducer disassembly

Transducer disassembly should be carried out in a heated state (in the temperature of material melting).

## Transducers connection

Transducers electric connection is made by stable plug equipped in rotate-and-lock coupling.

## Transducers electrical connection

### CDA and CDTA series

A	B	C	D	E	F
S+	S-	E+	E-		C

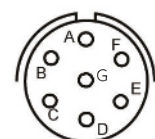
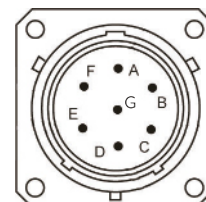
### CDAI and CDTAI series

Output signal	A	B	C	D	E	F	G
4-20 mA (2 wires)	S+	S-	-	-	C	C	-
4-20 mA (4 wires)	S+	S-	E+	E-	C	C	-
4-20 mA (7 PIN - Relay)	C	E- / S-	S+	R	C	E+	R
0-10 VDC (4 wires)	S+	S-	E+	E-	C	C	-
0-10 VDC (3 wires)	S+	E- / S-	E+	-	C	C	-
0-10 VDC (7 PIN - Relay)	C	E- / S-	S+	R	C	E+	R

S - signal, E - power, C - calibration, R - relay

Transducer socket

Plug



\*G - for 7PIN sensors

## Warning!!

Melt pressure transducers can be used only under stable pressure e.g. in extruders.

# High quality standard pressure transducers

## series CDA



CDA line pressure transducers are characterized by high quality and relatively low price in comparison to product merits.

Thanks to standard protective titanium nitride coating diaphragm, the pressure transducer offer high resistance to wearing providing necessary sensitivity at the same time. One-piece resistant stem of the pressure converter makes it the instrument extremely resistant. These transducers are the ideal standards to measure pressure in the plastic processing sector in the whole world. The precision of the pressure measurement goes hand in hand with accuracy  $\pm 0,5\%$  of the max. ranges.

### Technical data

Pressure range	0-100 to 0-1500 bar
Total measurement error in % of maximum indication	$\pm 0.5$
Accuracy of indications in %	$\pm 0.2$
Range of indications	Unlimited
Maximum overload of the rated value	2x measuring range
Membrane material	Titanium nitride 1.4541
Resistance of tensiometric sensor	350 Ohm DMS
Output signal	3.33 mV/V
Power supply	6 - 10 VDC
Calibration point in % of the range	80
Insulation resistance	1000 MOhm przy 50 VDC
Maximum temp. at membrane	410°C
Max. temp. at electronic part	85°C
Max. allowed mounting torque	1/2" - 20UNF - 2A = 5Nm M18 x 1.5 = 10Nm

### Special features of the pressure transducer:

- Standard mercury-free transducers
- Accuracy better than 0.5%
- Good stability and repeatability
- Long transducer's life-span
- Available version with and without mercury
- Membrane coated titanium nitride
- Electromagnetic compatibility
- Sensitivity 2 mV/V and 3,33 mV/V
- Range of pressure measurement 100/200/350/500/600/700/1000/1500 bar
- Temperature 30-390°C
- Energy supply max. 10 VDC
- Perfect quality for the offered price



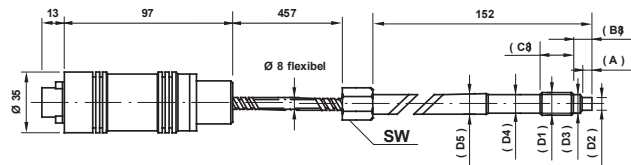
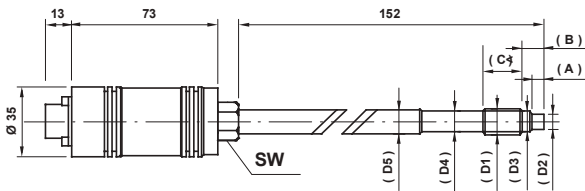
# High quality standard pressure transducers

## series CDA

Rigid stem

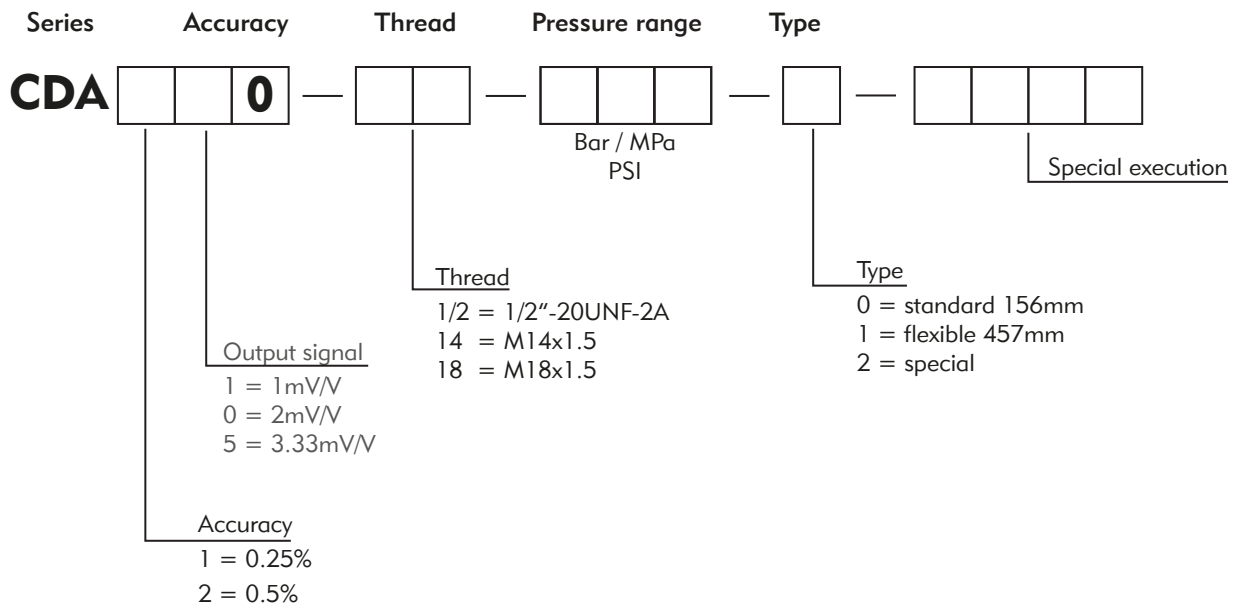


Flexible capillary



D1	D2	D3	D4	D5	A	B	C	SW
M18 x 1.5	10	16	16	16	6	14	20	22/19
1/2-20UNF-2A	7.8	10.5	10.5	12.5	5.6	10.8	17	17/19

### How to order



Example: CDA250-1/2-500-0

Melt pressure transducers, accuracy 0.5%, output signal 3.33 mV/V, thread 1/2"-20UNF, pressure range 500 bar, standard 156 mm.

# Pressure transducers with integrated amplifier

## series CDAI



CDAI series transducers equipped in a 2, 3 or 4 wired amplifier. It means that the single of the analogue output may be processed directly e.g. without amplifying. The amplifier is integrated with the main converter and provides an output signal of 0-20 mA, 4-20 mA or 0-10 V and 2-10 V (4-wired). Long successfully used system 2-wired is provided with the 4-20 mA output signal.

### Technical data

Pressure range	0-100 to 0-1500 bar
Total measurement error in % of maximum indication	± 0.5
Accuracy of indications in %	± 0.2
Range of indications	Unlimited
Maximum overload of the rated value	2x measuring range
Membrane material	Titanium nitride 1.4541
Resistance of tensiometric sensor	350 Ohm DMS
Output signal	0-10V; 2-10V or 0-20mA; 4-20 mA
Power supply	19 - 32 VDC
Calibration point in % of the range	80
Insulation resistance	1000 MOhm at 50 VDC
Maximum temp. at membrane	410°C
Max. temp. at electronic part	85°C
Max. allowed mounting torque	1/2"-20UNF - 2A = 5 Nm M18 x 1.5 = 10 Nm

### Special features of pressure transducer:

- Standard mercury-free transducers
- Integrated with the 2,3 or 4-wired amplifier
- Elastic or hard capillary
- Membrane made of titanium nitrides coating
- Electromagnetic compatibility
- Customised products available
- Longlife design
- Substitute 1:1 with transducers available on market
- Perfect price for the offered quality



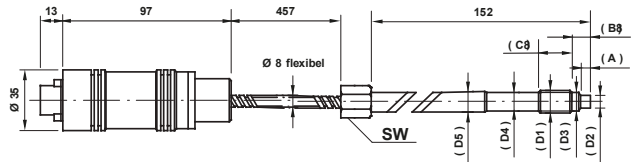
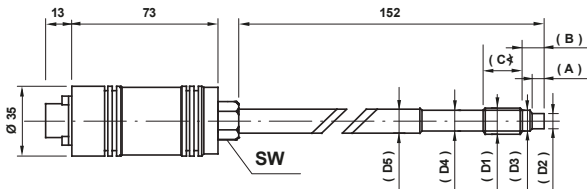
# Pressure transmitter with integrated amplifier

## seria **CDAI**

Rigid stem



Flexible capillary



D1	D2	D3	D4	D5	A	B	C	SW
M18 x 1.5	10	16	16	16	6	14	20	19/22
1/2-20UNF-2A	7.8	10.5	10.5	12.5	5.6	10.8	17	17/19

### How to order

Series	Accuracy	Thread	Pressure range	Type	Output signal	Special execution
<b>CDAI</b>	<b>0 0</b>					
	Accuracy 1 = 0.25% 2 = 0.5%	Thread 1/2 = 1/2"-20UNF-2A 14 = M14x1.5 18 = M18x1.5	Bar / MPa PSI	Type 0 = standard 156 mm 1 = flexible 457mm 2 = special	Output signal 1 = 0-10 VDC (4-wire) 2 = 2-10 VDC (4-wire) 3 = 0-20 mA (4-wire) 4 = 4-20 mA (4-wire) 5 = 4-20 mA (2-wire) 6 = 0-10 V (3-wire)	Special execution

Example: CDAI200-1/2-500-1-5

Melt pressure transducers with integrated amplifier, accuracy 0.5%, output signal 4-20 mA - 2 wire, thread 1/2"-20UNF, pressure range 500 bar, flexible 457 mm.



# Pressure and temperature transducers

## series CDTA / CDTAI



CDTA / CDTAI series pressure transducers with built-in thermocouple are characterized by high quality and relatively low price in comparison to product's merits. Thanks to standard protective titanium nitride coating diaphragm, these transducers offer high resistance to wearing, providing necessary sensitivity at the same time. These transducers are ideal standards to measure pressure in plastic processing sector in the whole world. The precision of the pressure measurement goes hand in hand with accuracy  $\pm 0,5\%$  of the max. ranges. Additional characteristic features of this series is the measurement of polymer melting temperature.

### Technical data

Pressure range	0-100 to 0-1500 bar
Total measurement error in % of maximum indication	$\pm 0.5$
Accuracy of indications in %	$\pm 0.1$
Range of indications	Unlimited
Maximum overload of the rated value	2x measurement range
integrated	FeCuNi type J/NiCrNi type K*/PT100 2, 3, 4 wire*
Membrane material	Titanium nitride 1.4541
Resistance of tensiometric sensor	350 Ohm DMS
Output signal:	
CDTA	3.33 mV/V
CDTAI	4-20mA or 0-10V
Power supply:	
CDTA	6 - 10 VDC
CDTAI	19 - 32 VDC
Calibration point in % of the range	80
Insulation resistance	1000 MOhm przy 50 VDC
Max. temperature at membrane	410°C
Max. temp. at electronic part	120°C
Max. allowed mounting torque	1/2" - 20UNF - 2A = 5 Nm M18 x 1.5 = 10 Nm

### Special features of pressure and temperature transducers:

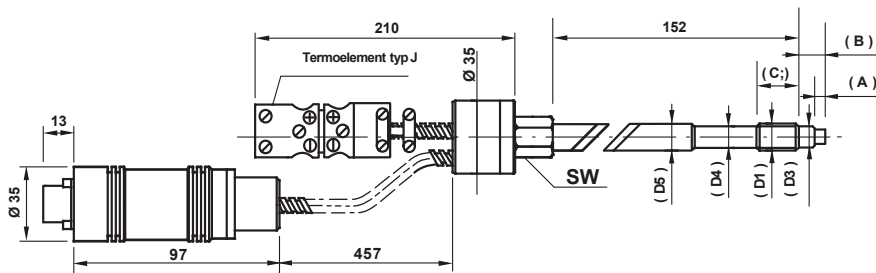
- Integrated melt temperature and pressure transducer
- Integrated amplifier within CDTAI line
- The most realistic measurement
- Longlife design
- Compatibility with standard converters
- Membrane coated with titanium nitrides
- Fineness of the measurement ranges  $\pm 0,5\%$
- Thermo-element according DIN 43710, J-type
- Rigid stem with flexible components

\* = optional



# Pressure and temperature transducers

## seria CDTA / CDTAI



D1	D2	D3	D4	D5	A	B	C	SW
M18 x 1.5	10	16	16	16	6	14	20	19/22
1/2-20UNF-2A	7.8	10.5	10.5	12.5	5.6	10.8	17	17/19

### How to order

**Output signal**

Series	Accuracy	Thread	Pressure range	Type	Thermocouple
CDTA	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	<b>0</b>		Bar / MPa PSI	<b>1</b>	
	Output signal 1 = 1mV/V 0 = 2mV/V 5 = 3.33mV/V	Thread 1/2 = 1/2"-20UNF-2A 14 = M14x1.5 18 = M18x1.5		Type 1 = flexible 457mm	Thermocouple 1J - Thermocouple type J 1L - Thermocouple typ L PT - Thermocouple type PT100 Analog output (CDTAI) 1 = 0-10 VDC (4-wire) 2 = 2-10 VDC (4-wire) 3 = 0-20 mA (4-wire) 4 = 4-20 mA (4-wire) 5 = 4-20 mA (2-wire) 6 = 0-10 V (3-wire)
	Dokładność 1 = 0.25% 2 = 0.5%				Special execution
	Amplifier 1 = with integrated amplifier				

Example: CDTA250-1/2-500-1-1J

Pressure and temperature transducer, accuracy 0.5%, output signal 3.33 mV/V, thread 1/2"-20UNF, pressure range 500 bar, flexible 457mm, integrated thermocouple type J.

Example: CDTAI200-1/2-500-1-5-1J

Pressure and temperature transducer with integrated amplifier, accuracy 0.5%, output signal 4-20 mA(2-wire), thread 1/2"-20UNF, pressure range 500 bar, flexible 457mm, integrated thermocouple type J.

# High quality mechanic pressure sensor

seria **GP**



Mechanic GP line pressure transducers are characterized by high quality and relatively low price in comparison to product's merits. Thanks to standard protective titanium nitride coating diaphragm, these transducers offer high resistance to wearing providing necessary sensitivity at the same time. Starr resistant shaft of the pressure transducers renders the instrument extremely resistant. These transducers are ideal standards to measure pressure in plastic processing sector in the whole world. The precision of the measurement goes hand in hand with accuracy.

## Technical data

Pressure range	0-1000 bar
Total measurement error in % of maximum indication	± 1.0
Accuracy of indications in %	± 1.0
Range of indications	Unlimited
Maximum overload of the rated value	2x measurement range
Membrane material	Titanium nitride 1.4541
Max. temperature at membrane	410°C
Max. allowed mounting torque	1/2" - 20UNF - 2A = 5 Nm M18 x 1.5 = 10 Nm

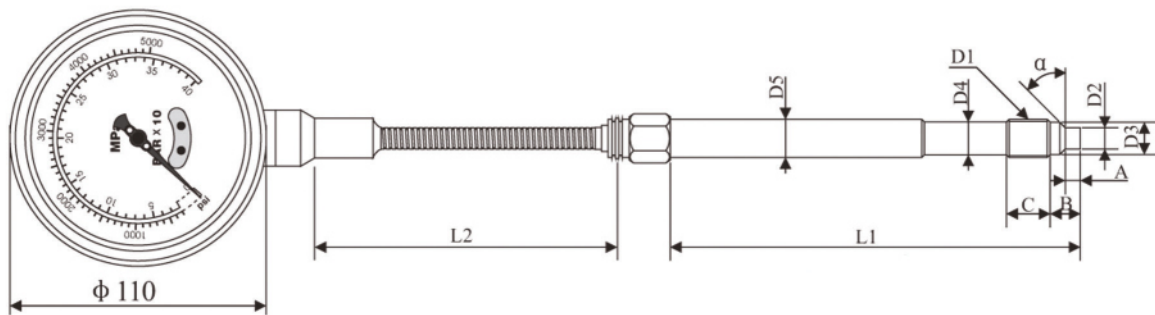
## Special features of pressure sensor:

- Good stability and repeatability
- Long transducer's life-design
- Membrane titanium nitride cover
- Range of pressure measurement 1-1000 bar
- Temperature 350-550°C
- Excellent price to performance ratio



# High quality mechanic pressure sensor

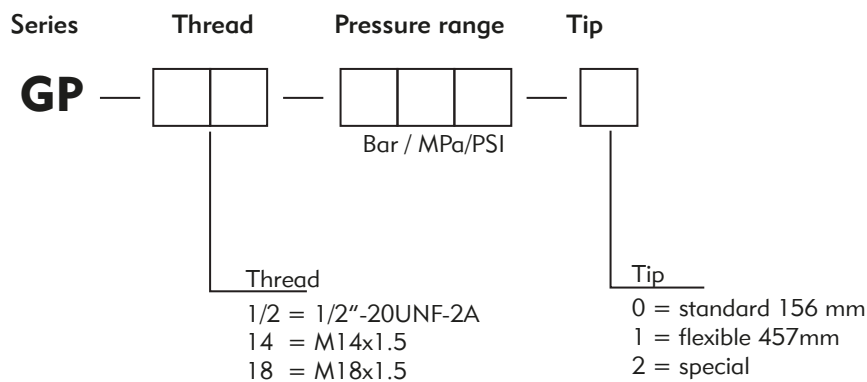
## series GP



D1	D2	D3	D4	D5	A	B	C	SW	L1	L2
M18 x 1.5	8.5	15.5	16	18	6	12	18	19/22	70/150/250	300-3000*
1/2-20UNF-2A	7.8	10.5	10.5	12.7	5.5	11	16	17	70/150/250	300-3000*

\*300; 470; 700; 1000; 2000; 3000;

### How to order

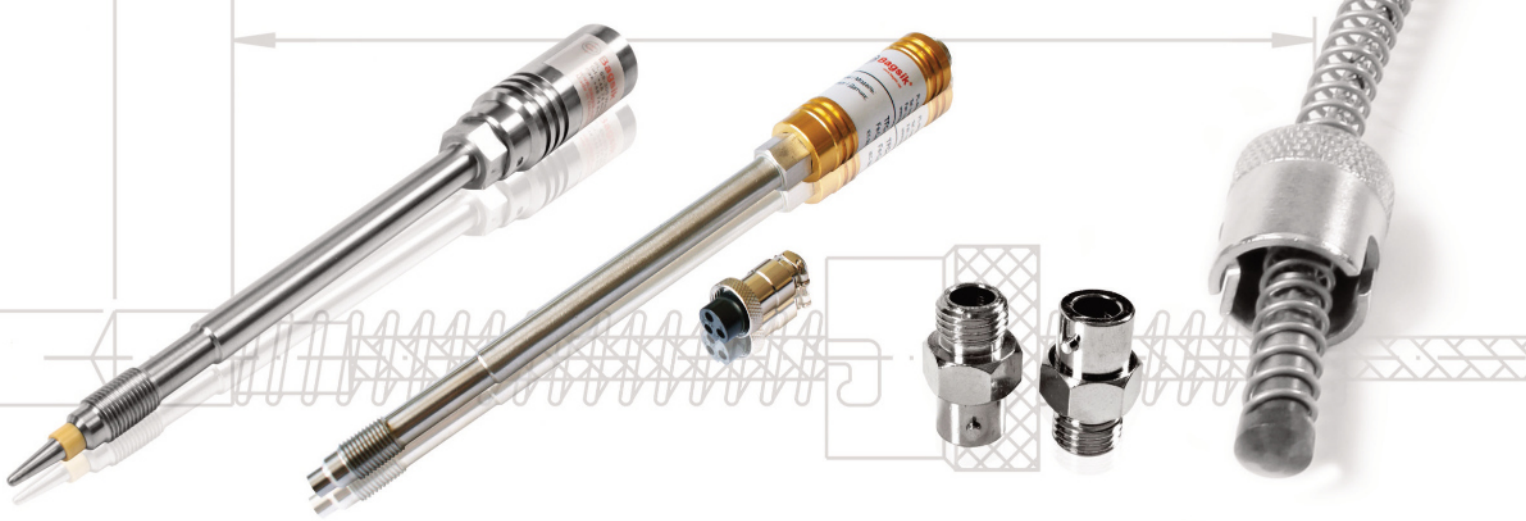


Example: GP-1/2-500-0  
Mechanical pressure sensor, thread 1/2"-20UNF, pressure range 500 bar, standard 156 mm.

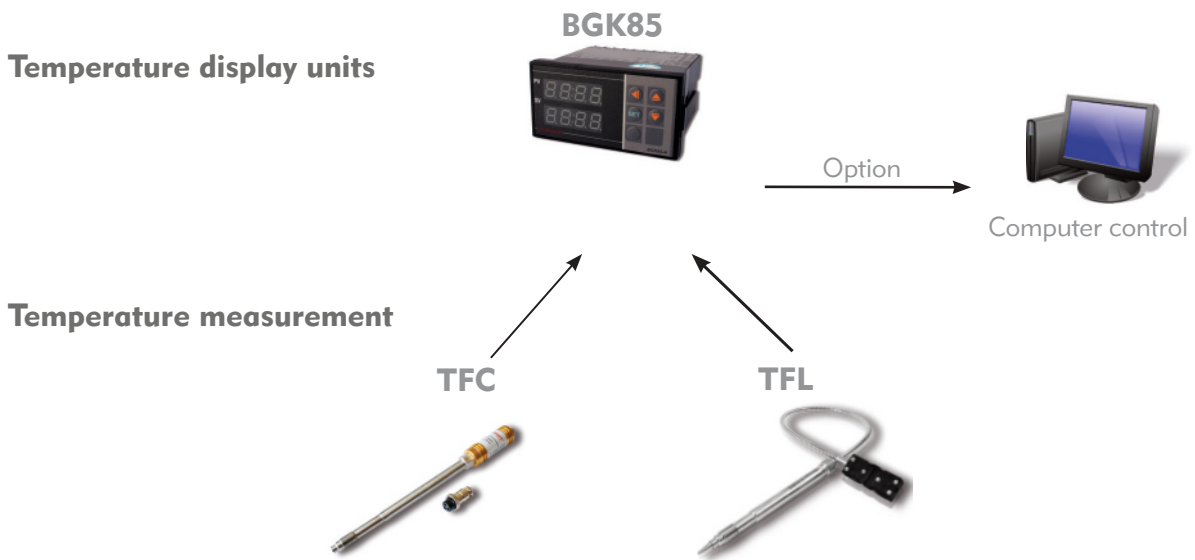


# Temperature measurement

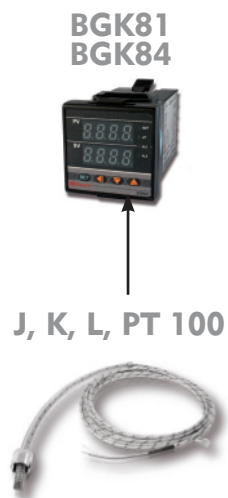




**Example of connections of particular elements**



**Temperature regulator**



## Melt temperature measurement and

Temperature sensors from our offer are designed to measure temperature of melt plastics including rubber, paste and liquids up to 400°C.

The measurement may be carried out through different type configurations:

Only PT100 sensor can be connected with a copper cable. Other J, K, L types should be linked with the same type cables.

The sensor structure does not influence the flow itself and it does not degrade plastics which must be homogenised.

It is recommended to use sensors with a cone to measure the temperature inside the canal, not next to the flange wall. The length of metering tip must be adjusted to the melt canal diameter. All other ways of use are unacceptable and resulted damages are not covered by guarantee.

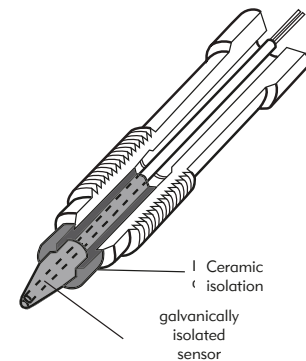
If we have only one hole available, the pressure transducer can be used with the temperature transducer. The transducer membrane has to touch material, for this reason the melt temperature measurement is calculated next to the flange wall. Metal temperature caused by barrel or heater flange will have impact on this measurement.

## Temperature sensor and cable connections

Transducer with a thermally insulated tip allows an accurate and honest measurement of molten material temperature. Thanks to the ceramic insulation, temperature does not affect the measurement.

## Temperature sensor design with ceramic insulation

All temperature sensors are equipped with coned measurement tip permitting a correct and simple covering. These cable connections are also equipped with stable end with rotate-and-lock coupling. The length of metering tip may be selected within 0-25 mm. The standard version may be used to 400°C. For high temperatures we offer special sensors for up to 500°C.

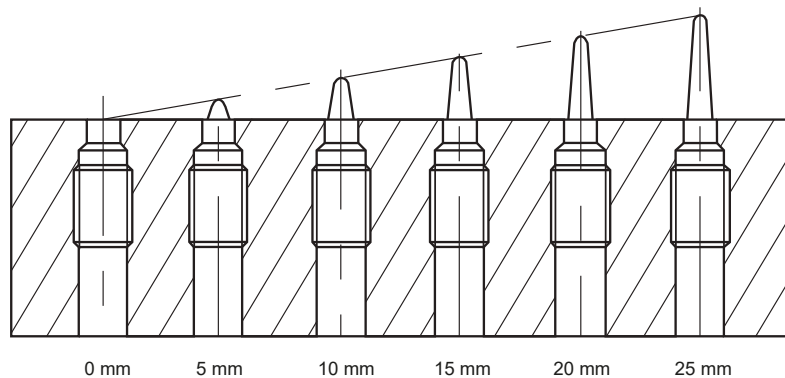


## Ceramic isolation

Galvanically isolated sensor

## Length of metering tip

Selection of metering tip length depends on the canal diameter and material viscosity. The length may vary between 0 and 25 mm in 5 mm long intervals. Ends are equipped with thermocouples Fe-CuNi of J, NiCr-Ni of K type or thermometric Pt100 resistors.

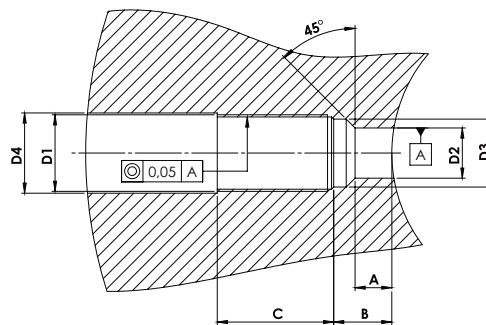


**For standard sensors, like for screens, we assure delivery of the ordered goods within 24 h from the moment of order placement.**

## Temperature sensor installation

To make a hole to install the sensor, special tools and high skills are required. High tolerance and surface quality maintenance is difficult. For this reason, we suggest using reducer bushes.

Dimensions	Thread		
	M18 x 1.5 mm	M14 x 1.5 mm	1/2" - 20UNF-2A
D1	M18 x 1.5 mm	M14 x 1.5 mm	1/2" - 20UNF-2A
D2	Ø 10.1 +0.1	Ø 7.9 +0.1	Ø 7.9 +0.1
D3	Ø 16.1 +0.2	Ø 12 +0.1	Ø 10.7 +0.1
D4	Ø 20 +0.2	Ø 14.5 +0.2	Ø 13 +0.2
A	6.1 -0.1	6 -0.1	5.7 -0.1
B	10 -0.2	4 -0.2	3.2 -0.2
C	25	19	19



## Warning !

Before the transducer installation, the dimensions of the mounting thread should be controlled in regard to correct dimension maintenance and tolerance. Additionally, the hole should not contain any contamination or material remnants. We recommend using the plug before screwing in the sensor in order to check the thread and copper paste for easier sensor unscrewing during the disassembly. The transducer should be screwed in sealing surface (cone) without using a spanner.

The moment of transducer installation for 1/2"-20UNF thread is 5 Nm, for M18x1,5 thread – 10Nm.

## Temperature sensor disassembly

Sensor disassembly should be carried out in a heated state ( in the temperature of material melting).

# Temperature sensors without an insulated metering tip

## series TFC/TF/ TFL

TFC/TF



TFC line is intended for measuring temperature of all kind of molten polymer. These sensors are characterized by an exceptionally attractive price, reliability, versatility, compatibility and maximum quality. Cables and plugs located on the sensor head ensure a good connection quality. TFC sensors may be delivered with thermocouple Fe-CuNi of J, L types and NiCr-Ni of K type, as well as Pt 100 - 2, 3 and 4-wired. The installation is the same as for other sensors measuring liquid temperature.



### Technical data for TFC and TFL

Sensor	Thermocouple or resistance sensor
Output signal (integrated with the amplifier)	0-10 VDC 4-20 mA (linear temp.)
Transfer of heat value	1.4305: 15W/m x k
Insulating sleeve	2.5 W/m x k
Material contacting the medium	1.4305 2.4610 (optional)
Isolation of the resistance in temperature sensors	at 20°C, about 200 MOhm at 100 V, at 400°C, about 2040 MOhm at 100 V
Max pressure of the molten medium	2000 bar

### Special features of temperature sensor:

- High quality and durability
- Golden plug connection
- High durability
- Attractive price
- Versatility, compatibility
- Suitable for temperature of up to 400°C

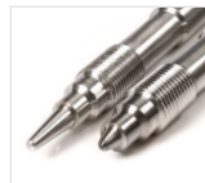
TFL



TFL temperature sensor is a universal and at the same time practical sensor for temperature measurement thanks to the use of resistant thermocouple. It is a durable and resistant sensor for measuring temperature using a resistant thermocouple. It is a solid and resistant device, the figure of which is based on a one-piece shaft. The cable length between the sensor and the plug may vary according to customer's needs. The sensor may be equipped with a thermocouple Fe-CuNi of J, L types and NiCr-Ni of K type. The thermocouple Pt 100 - 2, 3 or 4-wired is also possible. Dimensions and threads are identical as in other types of liquid temperature transducers.

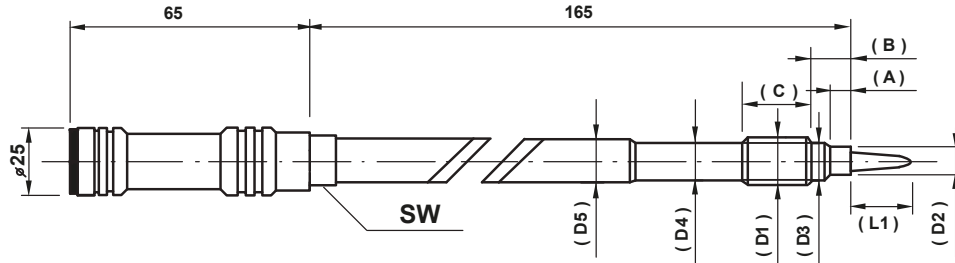
### Special features of temperature sensor:

- High durability
- Universal compatible connection socket
- High quality and durability
- Suitable for temperature of up to 400°C
- Different lengths of metering tips
- Perfect quality for the offered price



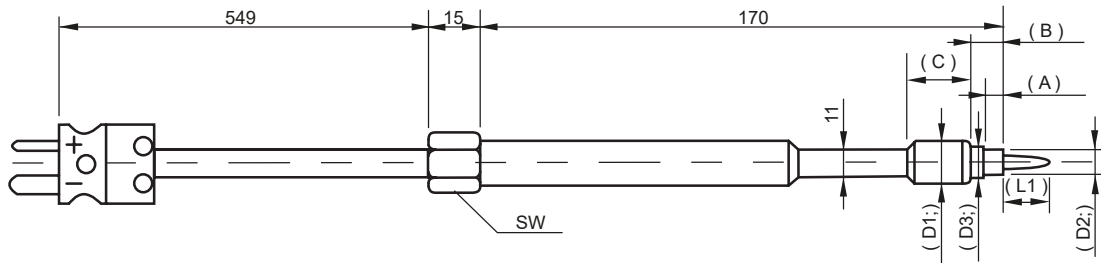
# Temperature sensors with and without an insulated metering

## seria **TFC/TF/TFL**



TFC/TF

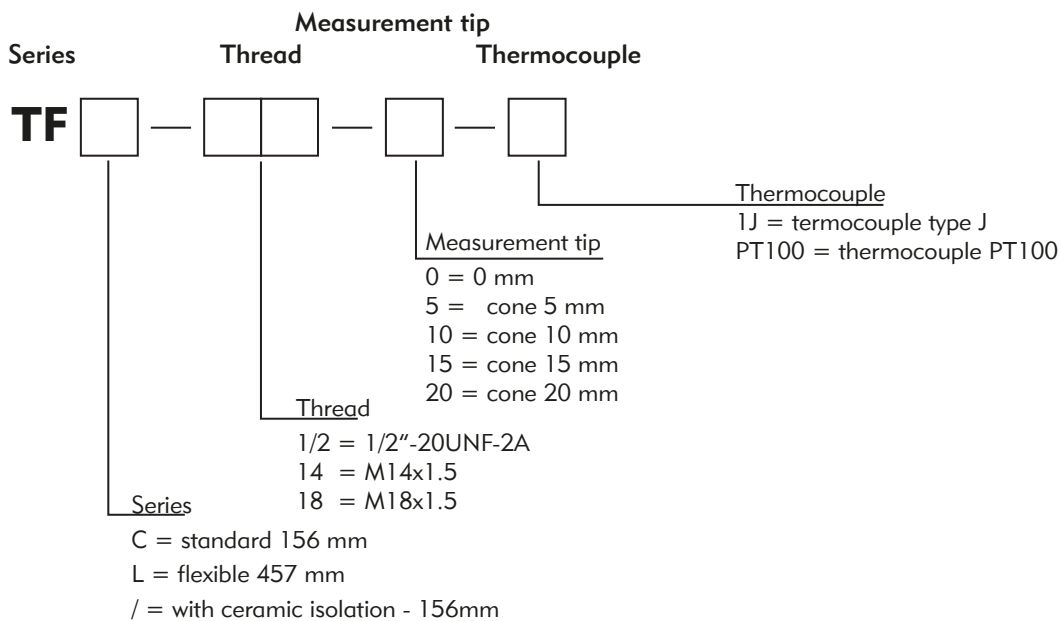
D1	D2	D3	D4	D5	A	B	C	SW
M18 x 1.5	10	16	16	16	6	14	20	19/22
1/2-20UNF-2A	7.8	10.5	10.5	12.5	5.6	10.8	17	17/19



TFL

D1	D2	D3	D4	D5	A	B	C	SW
M18 x 1.5	10	16	16	16	6	14	20	19/22
1/2-20UNF-2A	7.8	10.5	10.5	12.5	5.6	10.8	17	17/19

### How to order



Example: TFC-1/2-5-1J  
 Melt temperature sensor, standard 156 mm, thread 1/2"-20UNF, cone tip 5 mm, integrated thermocouple type J.

Example: TFL-1/2-10-1J  
 Melt temperature sensor, flexible 457 mm, thread 1/2"-20UNF, cone tip 10 mm, integrated thermocouple type J.



Fe-CuNi, NiCr-Ni / Pt 100, Pt 500, Pt 1000

# Thermocouple



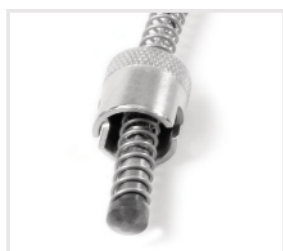
Thermocouple, known also as thermo-element or thermo-cell, is one of the automation elements to measure temperature. It is characterized by high reliability, fineness and elasticity of structure which allows to apply it in different conditions. Available with 1 or 2 thermo-cells. Thanks to its springs, the depth of thermocouple immersion can be steplessly regulated by the rotation of the bayonet cap.

Temperature sensors

Technical data	
Number of thermocouples	1, 2
Diameter	Ø 4 Ø 6 Ø 8
Type of tip	flat 120° angle
Type of thermocouple	Fe-CuNi type J Fe-CuNi type L NiCr-Ni type K Pt 100/500/1000
Internal diameter of fastener, dipstick cap	250 mm
Bushing thread	Ø 12,2 Ø 14,5
SW1, length of 30mm	M10 x 1 M12 x 1 M14 x 1.5 G 1/4 G 3/8 M12 x 1.75 G 1/2

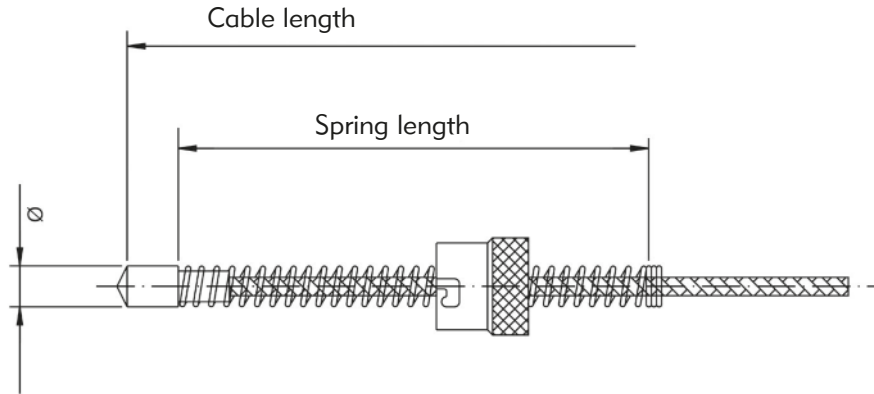
## Special features of thermocouples:

- No external power supply required
- Small dimensions
- Low thermal volume
- Low inertia time
- Wide range of measurements with good linearity
- Simple structure
- high reliability



Fe-CuNi, NiCr-Ni / Pt 100, Pt 500, Pt 1000

# Thermocouple

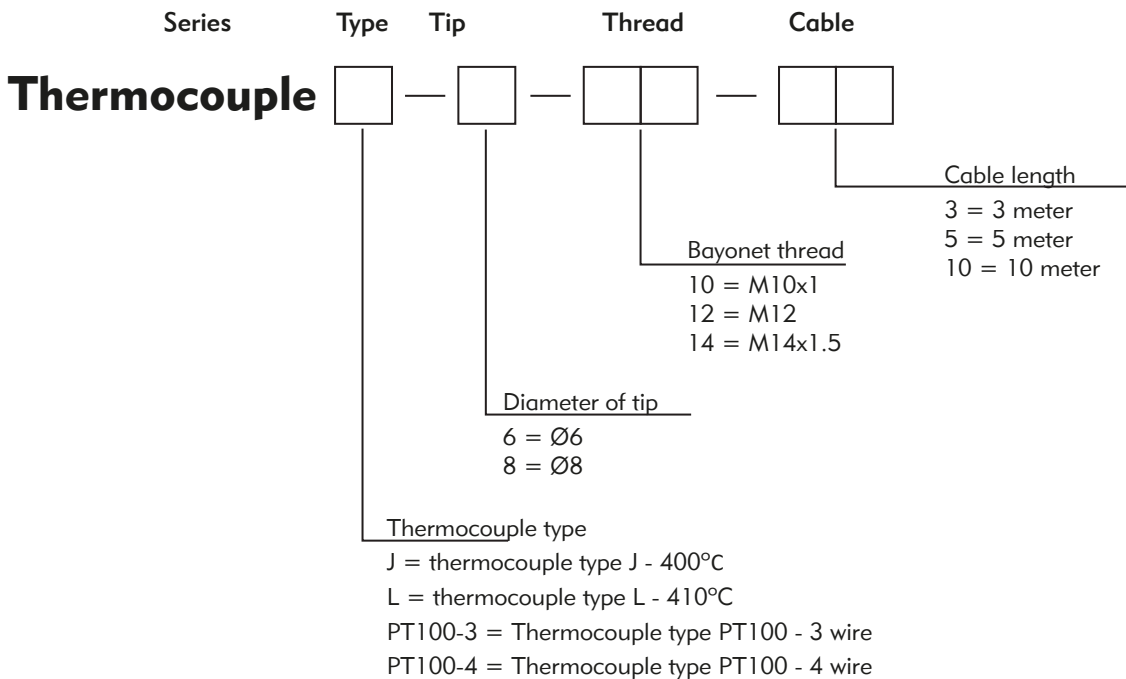


Thermocoupl		T	U	J	L	E	K	N	R, S	B
Type of material	+	Cu	Cu	Fe	Fe	NiCr	NiCr	NiCrSi	Pt10Rh	Pt30Rh
	-	CuNi	CuNi	CuNi	CuNi	CuNi	Ni	NiSi	Pt	Pt6Rh
Color										

**Warning**

To connect and extend cables, the cable of the same type as the one of transducer is needed (except for Pt100 – regular copper Cu cable)!!!

## How to order



Example: Thermocouple J-6-14-5  
 Thermocouple, type J, diameter of tip  $\varnothing 6$ , bayonet thread M14x1.5, cable length 5 meter.

# Accessories

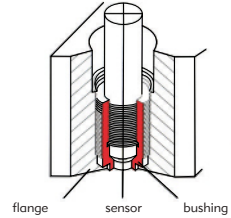
## Reducer bushing

Reducer Bushing make it easy to make a hole for mounting the temperature and pressure sensors. The bushing is made of hardened and nitrided steel. To mount reducing bushing it is enough to use a regular M16, M18 or M24 tap metric.



Reducer bushing types:

- M16 – 1/2" - 20 UNF - 2A
- M18x1,5 – 1/2" - 20 UNF - 2A
- M24 – M18x1,5



## Screwdrivers for reducer bushings

Special screwdriver was designed to screw in and unscrew reducer bushings. It is required to avoid damaging the reducer bushing during tightening it with maximum torque.



## Reduction bushing socket cleaning tool

Any contamination of sensor mounting thread can cause its destruction. To avoid this the socket and reduction bushing mounting thread should be cleaned before every sensor replacement. This will extend the life of the sensor and reduction bushing.



## Plug tools

All unused holes for pressure and temperature sensors should be closed with special closing plugs with suitable thread, assuring 100% hole tightness.

Dimensions:

- 1/2" - 20 UNF - 2A
- M18 x 1,5 mm
- M24



## Rapture Discs BP

Extruder protecting against the pressure overload is carried out through disposable passive pressure rupture disk. The protecting element is a specially constructed membrane matched in regard to the pressure limit of the secured device. It is located at the end of valve rod. Once the permissible pressure limit is exceeded in the extruder, the membrane bursts and the medium excess expands in the air.



# Accessories



## Interconnect cables

Standard cables have one plug at one end to connect with transducer. All standard interconnect cables are 3, 5, 7.5 and 10 m long. Special sets of measuring cables may be delivered on special request (e.g. resistant to high temperature).



## Plugs

Converters and temperature and pressure transducers are connected with high quality resistant and reliable plugs. All plugs have golden pins and they are compatible with EMC and assure the security in compliance with technological standards.



## SSR-Solid State Relay

SSR type:

- 10 A / 25 A / 40 A / 60 A / 75 A



## Bayonet

Threaded sleeve with a thermocouple holder, available in the following dimensions:

- M10x1
- M12x1
- M14x1.5



## Bag Fast Clean

High quality paste for cleaning metal elements from plastics and contamination.

How to use: with our paste, metal elements may be cleaned from stuck or burnt plastics in two ways:

**Hot** - put the paste on a preheated element (steel), place it equally on the whole surface and then using a brass brush located e.g. in the drill clean the given element

**Cold** - the surface intended to be clean spray with oil and then using a brass brush scrape filings off the paste onto the element that is being cleaned. Using a brass brush located e.g. in the drill clean well the given element.

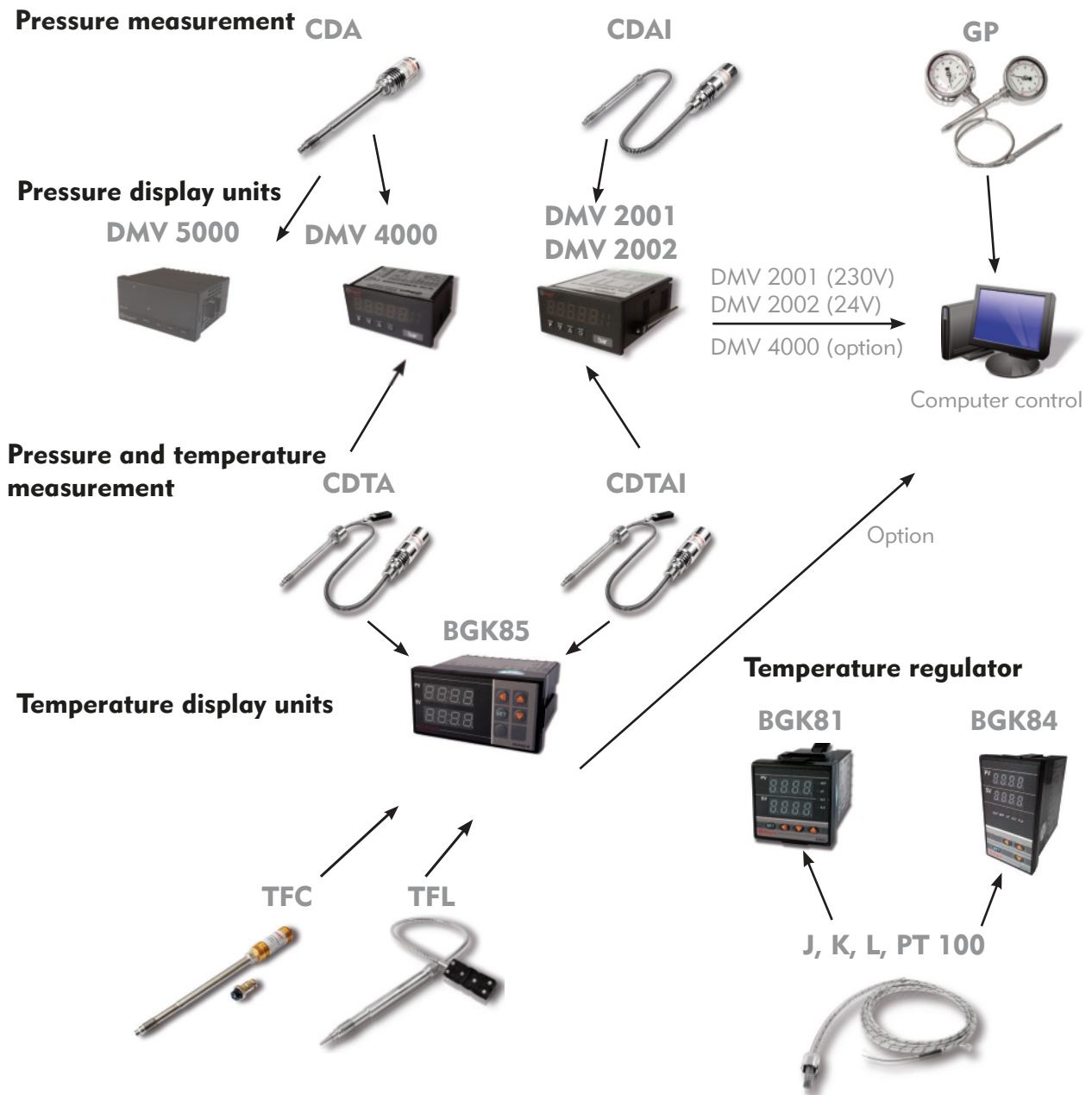




# Pressure and temperature displays, regulators, amplifiers



## Example of connections of particular elements





## Standard pressure gauge

# DMV 5000



DMV 5000, constructed on the microprocessor base it is particularly easy to operate. It is an amplifier for converters controlling flow pressure. Settings assure the conversion 3,33 mV/V signal in the output connection. Device has max. 4 (any) options of alarm output and one analogue signal of 0-5 V, 0-10 V, 0-20 mA or 4-20 mA. High value of the memory, easy operation through sensible touch keyboard and the extreme durability assure satisfaction and easy use. The unit may be protected against the non-authorized use thanks to software settings.

Technical data	
Model	Front cover
Dimensions	96x48x70 casing contains terminal block with a popper – plastic hooks of 50 mm thick walls. PC/ABS material blend, black, weight of around 0,450 kg notch size: 96,0 <sup>+0,8</sup> x 48,0 <sup>+0,6</sup>
Display	7-segment LED diode, 14 mm high
Class of isolation	Front IP 54, connections IP 00
Accuracy	± 0,1% of measurement. ±1 digit of temperature fineness 0 50 ppm/K
Input	resistance - Wheatstone 350 Ohm bridge
Power supply of the sensor	±5 VDC
Voltage of the power supply	10 VDC power supply of the converter
Sensitivity	3,33 mV/V
Analog output	Yes
Calibration in % of range	80%
Range	0-9999 bar
Protection	yes
Power supply	24 VDC* 115 VAC 48-62 Hz* 230 VAC 48-62 Hz
Power of the power supply	Power supply 230 VAC ±10% input power max 5 VA,

\*Option



## Pressure gauge with analogue output

# PZ5

Amplifier and pressure gauge PZ 5 constructed on microprocessor base. Universal possibilities of settings assure the conversion of 0-10 V and 0/4-20 mA. The characteristic feature of the amplifier is that it is easy to operate and possible to adjust to different pressures. It is an amplifier for converters controlling flow pressure. The unit may be protected against the non-authorized use thanks to software settings. Device has 2 analogue outputs of 0-10 V, 0-20 mA or 2-10 V and 4-20 mA with the possibility to program.



Technical data	
Model	Front cover
Dimensions	96x48x134 casing contains terminal block and a popper plastic hooks of 50 mm thick walls. PC/ABS material blend, black, weight of around 0,450 kg notch size: $96,0^{+0,8} \times 48,0^{+0,6}$
Display	7-segment LED diode, 14 mm high
Class of isolation	Front IP 54, connections IP 00
Accuracy	$\pm 0,1\%$ of measurement. $\pm 1$ digit of temperature fineness 0 50 ppm/K
Input	resistance - Wheatstone 350 Ohm bridge
Power supply of the sensor	$\pm 5\text{VDC}$
Voltage of the power supply	10 VDC power supply of the converter
Sensitivity	0-10V, 0-20 mA, 4-20 mA
Analog output	0-10 VDC or 0-20 mA or 4-20 mA
Calibration in % of range	80 100
Range	0-9999 bar
Protection	yes
Power supply	24 VDC* 115 VAC 48-62 Hz* 230 VAC 48-62 Hz
Power of the power supply	Power supply 100-240 VAC / DC $\pm 10\%$

\*Option

## Standard pressure gauge

# DMV 4000



DMV 4000 successor of DMV 3000, constructed on the microprocessor base it is particularly easy to operate. It is an amplifier for converters controlling flow pressure. Universal possibilities of settings assure the conversion of 1 to 4 mV signal in the output connection. Device has max. 4 (any) options of alarm output and (optional) one analogue signal of 0-10 V, 0-20 mA or 4-20 mA. High value of the memory, easy operation through sensible touch keyboard and the extreme durability assure satisfaction and easy use. The unit may be protected against the non-authorized use thanks to software settings.

### Technical data

Model	Front cover
Dimensions	96x48x70 casing contains terminal block with a popper – plastic hooks of 50 mm thick walls. PC/ABS material blend, black, weight of around 0,450 kg notch size: 96,0 <sup>+0,8</sup> x 48,0 <sup>+0,6</sup>
Display	7-segment LED diode, 14 mm high
Class of isolation	Front IP 54, connections IP 00
Accuracy	± 0,1% of measurement. ±1 digit of temperature fineness 0 50 ppm/K
Input	resistance - Wheatstone 350 Ohm bridge
Power supply of the sensor	±5 VDC
Voltage of the power supply	10 VDC power supply of the converter
Sensitivity	1 mV/V, 2 mV/V, 3.3 mV/V, 4 mV/V
Analog output	no
Calibration in % of range	80 100
Range	0-9999 bar
Protection	yes
Power supply	24 VDC* 115 VAC 48-62 Hz* 230 VAC 48-62 Hz
Power of the power supply	Power supply 230 VAC ±10% input power max 5 VA, or 120VAC or 24VDC, 10-30 VDC +/- 10% max. 4 VA

\*Option

## Pressure gauge with analogue output

# DMV 2001 / DMV 2002

Amplifier and pressure gauge DMV 2001 and DMV 2002 constructed on the microprocessor base. The characteristic feature of the amplifier is that it is easy to operate and possible to adjust to different pressures. It is an amplifier for converters controlling flow pressure. Universal possibilities of settings assure the conversion of 1 to 4 mV signal in the output connection. The unit may be protected against the non-authorized use thanks to software settings. Device has 2 analogue outputs of 0-10 V, 0-20 mA or 2-10 V and 4-20 mA with the possibly to program. DMV 2001 energy supply power 230V and DMV 2002 energy supply power 24 V.



Technical data	
Model	Front cover
Dimensions	96x48x134 casing contains terminal block and a popper plastic hooks of 50 mm thick walls. PC/ABS material blend, black, weight of around 0,450 kg notch size: 96,0 <sup>+0,8</sup> x 48,0 <sup>+0,6</sup>
Display	7-segment LED diode, 14 mm high
Class of isolation	Front IP 54, connections IP 00
Accuracy	± 0,1% of measurement. ± 1 digit of temperature fineness 0 50 ppm/K
Input	resistance - Wheatstone 350 Ohm bridge
Power supply of the sensor	±5VDC
Voltage of the power supply	10 VDC power supply of the converter
Sensitivity	1 mV/V, 2 mV/V, 3.3 mV/V, 4 mV/V
Analog output	0-10 VDC or 0-20 mA or 4-20 mA
Calibration in % of range	80 100
Range	0-9999 bar
Protection	yes
Power supply	24 VDC* 115 VAC 48-62 Hz* 230 VAC 48-62 Hz
Power of the power supply	Power supply 230 VAC ±10% 50-60 Hz input power around 5V A - DMV 2001 and DMV 2002 - 24 VDC

\*Option

## Standard temperature display

# BGK85



BGK85-type amplifiers are temperature gauges cooperating with thermocouple elements of J, K, L or Pt100 types. All units of BGK85 series are optionally equipped with analogue outputs and adjusted to control systems installation.

Technical data	
Model	Front cover
Dimensions	96x48x80 casing contains terminal block with a popper – plastic hooks of 50 mm thick walls. PC/ABS material blend, black, weight of around 0,450 kg
Display	7-segment LED diode, 14 mm high, 3 ½ digit
Insulation class:	Front IP 40, connections IP 00 (BGK85)
Fineness	± 0,1% of measurement. ± 1 digit of temperature fineness- 0 50 ppm/K
Input	Thermocouple FeCuNi J-type FeCuNi L-type NiCrNi K-type measurements Pt 100 2, 3, 4 wires
Output	---
Open circuit transducer	Control open circuit transducer
Power supply	230/115 VAC ± 10%, 50-60 Hz
Analogue output	---
Power supply	Power supply 230 VAC ± 10% 50-60 Hz input power around 5 VA, or 120 VAC or 24 VDC

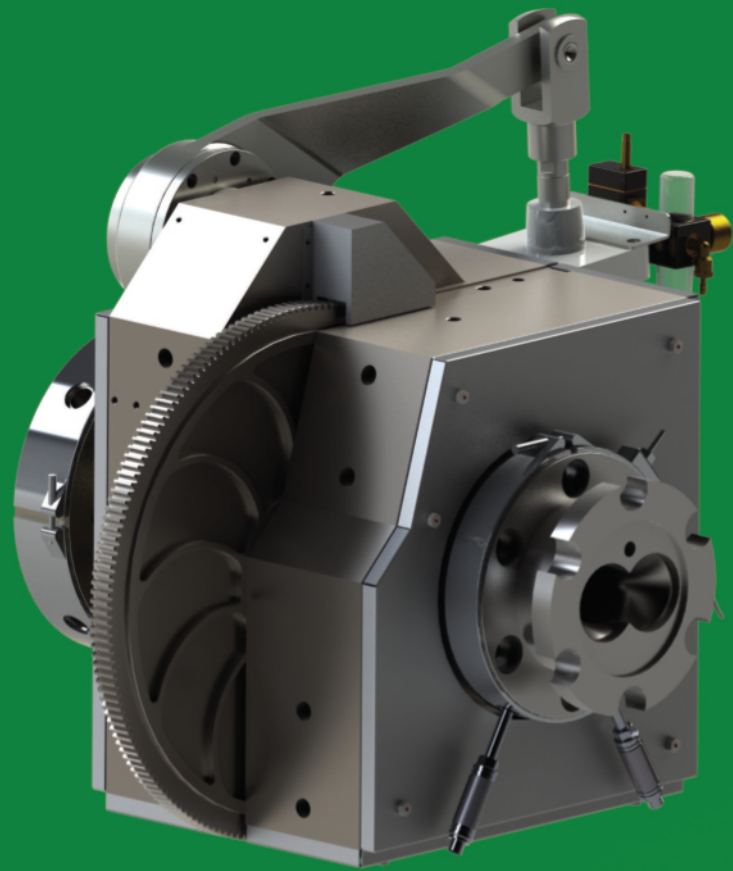
# Temperature regulator

## BGK81 / BGK84

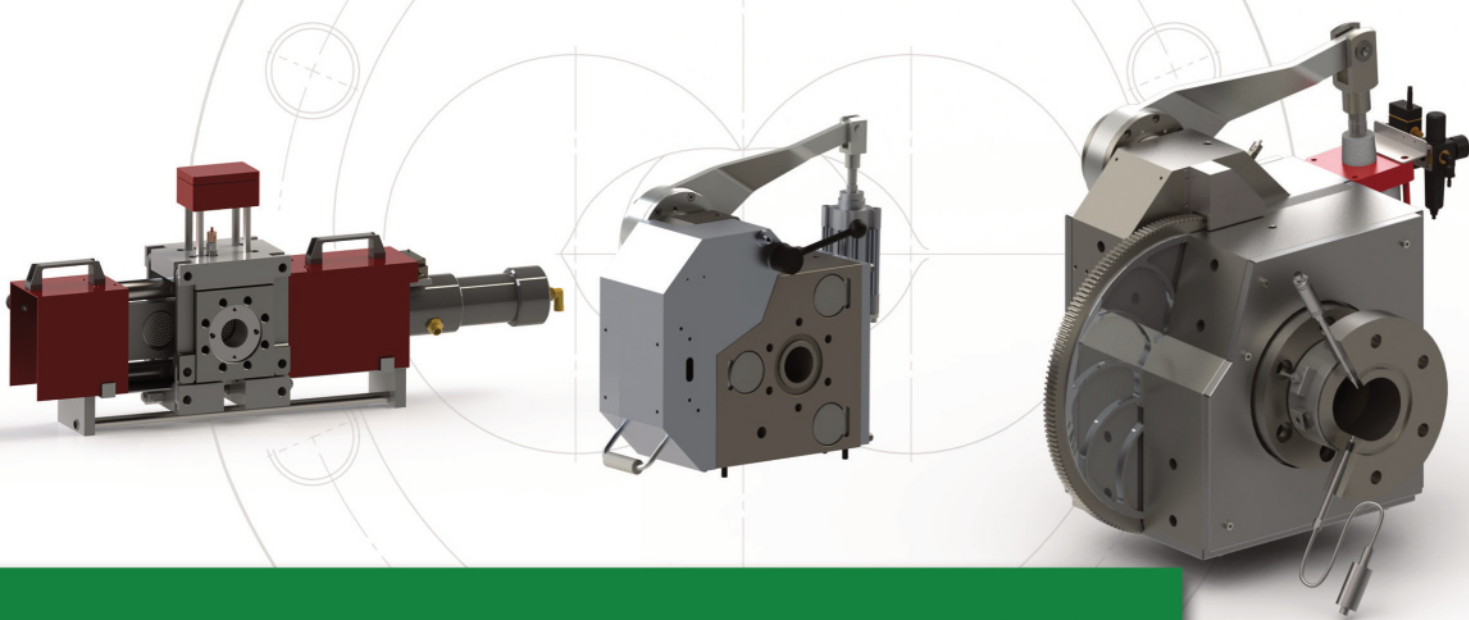
BGK81 and BGK84 regulator regulates temperature in devices through connectors and switching off of the electric control device according to chosen regulator settings. It works directly with temperature transducers of resistance and thermoelectric types. Designed for temperature regulation in plastic, food, drying industries and everywhere where the stabilisation of temperature changes is needed. The regulator has a relay open-closed output which allows a direct control of low power devices.



Technical data	
Model	Front cover
Dimensions	48x48x80 (BGK 81) and 48x96x80 (BGK84) casing contains terminal block with a popper – plastic hooks of 50 mm thick walls. PC/ABS material blend, black, weight of around 0,450 kg
Display	7-segment LED diode, 2 displays, 4 digits
Insulation class:	Front IP 40, connections IP 20
Basic error [°C]	0.8 - 3.0
Input	Thermocouple L-type Thermocouple J-type Thermocouple K-type Re-static measurement Pt 100 2, 3, 4 wire
Signalisation	- active output - programmed value displayed
Output operating mode	- in a reverse way for heating - straight for cooling
Power supply	230 VAC $\pm$ 10%, 50-60 Hz 120 VAC* 24 VDC*
Analogue output	mA, VDC
Output	Relay (BGK81) and SSR (BGK81 and BGK84)



# Screen changers



In the field of extrusion of any type of plastics, contaminants in molten materials are unacceptable, they do not only influence the quality of product, but also impedes whole process. Therefore, it is important to assure perfect filtration without decreasing the quality of molten material.

Our screen changers stand out among others thanks to the following features:

- Filter easy to operate
- Changer easy to maintain
- Durable and resistant to wearing structure
- Tightness
- Low energy need
- Our experience is reflected in the quality

Screen changers are used to produce e.g.:

- Sections
- Fibres, tapes, films
- Granulation, re-pelletization, microgranulation
- Masterbatches and other substances
- Injection and other moulding processes
- Connected with toothed pump to protect it
- Extrusion of foams and foamed films

We offer new and used screen changers and we provide repair and complete technical services for all filtration systems (screenchangers) along with spare parts.

We can deliver every filtration system, depending on individual needs, e.g.:

- Simple
- Semiautomatic
- Automatic and self-cleaning
- 1- and 2-socket sliding plates with one or two sliding plates
- 1- and 2-socket pin systems with round or oval screens
- Pin systems with one or multiple pins

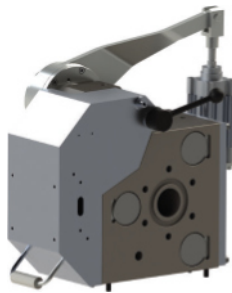


# Screen changers: Rotary

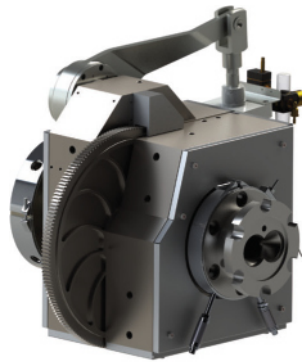
Plastics processing consists in melting polymers and moulding to a desired shape. It can be made thanks to :

- Drainage
- Rotary moulding (barrels, containers)
- Injection moulding
- Extrusion
- Foaming (polystyrene foam)

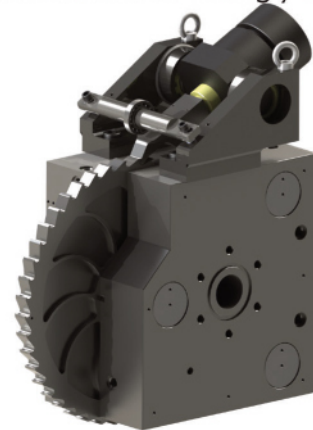
Processing of plastics consists of polymer melting and giving it the desired shape. The melting of plastic process is a relatively simple and mastered in modern extruders or injection molding machines. A method of filtering the melt material is often overlooked in studies. This makes a significant technological problems. Because the wrongly chosen



F60 / F75



F150



F175

## Screen changer type

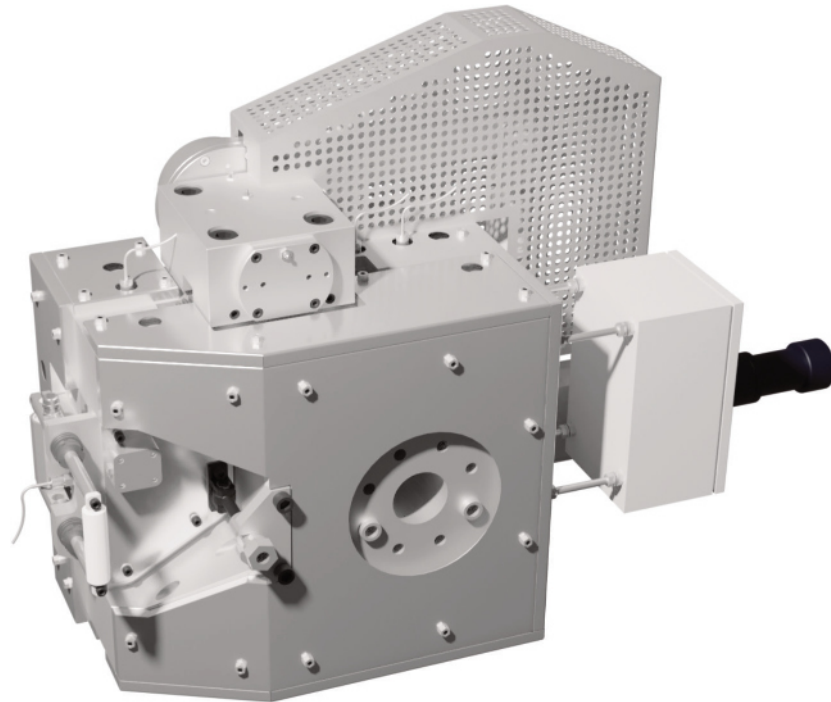
Symbol	Efficiency (kg/h)	Max pressure (bar)	Filtration area (cm <sup>2</sup> )	Weight (kg)	Power supply (V)	Power of heaters (kW)
F 45	120	500	19	75	230/400	1,9
F 60	220	500	35	115	230/400	2,2
F 75	310	500	45	220	230/400	5,8
F 90	550	350	70	460	230/400	7,3
F 150	1430	350	180	550	230/400	8,0
F 175	2080	350	250	1200	230/400	12,0
F 200	2850	300	320	1680	230/400	28,0
F 250	4070	250	500	2300	230/400	32,0

# Rotary screenchanger type RF self-cleaning

In terms of quality, cost-effectiveness, user-friendliness and ease of use, the RF filter represents the highest standards of all today's systems. This fully automated filtration system can be used to automate the production process and to produce a high quality end products.

Benefits of the RF filters:

- fully automated filtration system with self-cleaning,
- constant pressure, temperature and viscosity,
- product quality guarantee and short filtration time,
- simple and safe screens changing as well as low cost of filtration,
- compact size and low installation difficulty.



## Screen changer type RF

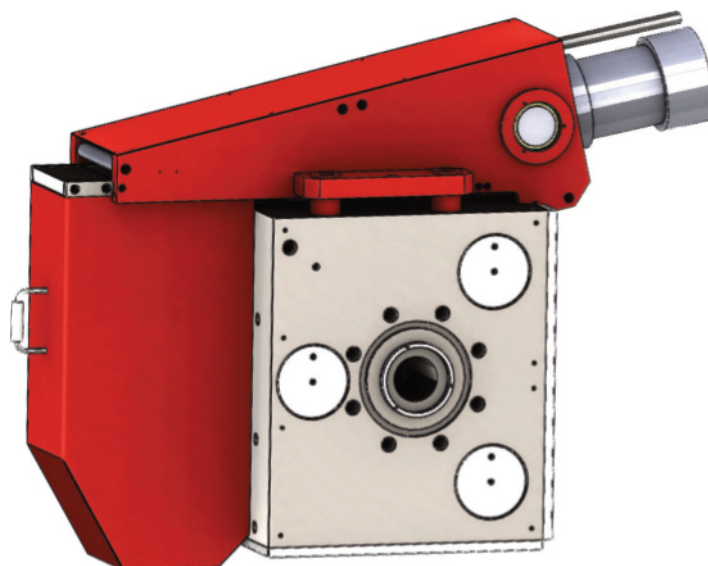
Symbol	Efficiency (kg/h)	Max pressure (bar)	Filtration area (cm <sup>2</sup> )	Weight (kg)	Power supply	Power of heaters (kW)
RF 45	190	350	45	200	230/400	7,80
RF 60	390	350	78	200	230/400	7,80
RF 75	510	350	100	310	230/400	8,10
RF 90	780	300	170	650	230/400	18,50
RF 150	1850	250	340	820	230/400	21,50
RF 175	2100	250	480	1450	230/400	26,50
RF 200	3000	220	720	3200	230/400	36,50
RF 250	3500	175	1250	3700	230/400	40,0

## Screen changers

# Rotary screenchanger type KF

Special features of the screenchanger type KF:

- constant filtration surface,
- invariance of filtering parameters,
- long-term operation of the device,
- continuity of the process,
- easy in use.



## Screen changer type KF

Symbol	Efficiency (kg/h)	Max pressure (bar)	Filtration area (cm <sup>2</sup> )	Weight (kg)	Power supply (V)	Power of heaters (kW)
KF45	100	600	16	80	230/400	1,7
KF60	180	600	28	100	230/400	3,4
KF75	300	600	44	290	230/400	5,6
KF90	500	600	64	350	230/400	6,4
KF150	1300	500	177	1000	230/400	16,0
KF175	1900	400	240	1500	230/400	20,0
KF200	2700	300	314	1680	230/400	36,0/oil
KF250	3900	300	491	3800	230/400	62,0/oil

## Screen changer type KF<sub>x</sub>2

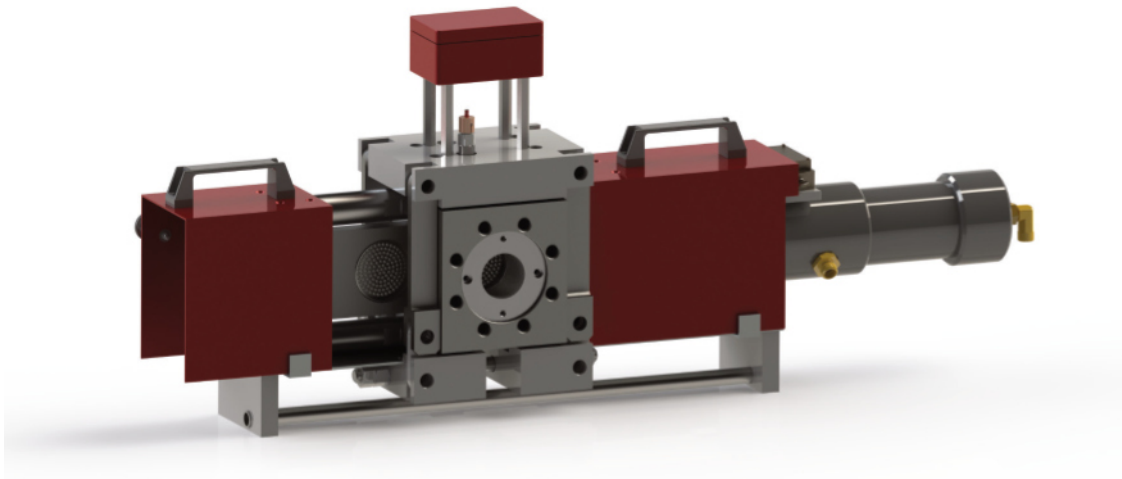
Symbol	Efficiency (kg/h)	Max pressure (bar)	Filtration area (cm <sup>2</sup> )	Weight (kg)	Power supply (V)	Power of heaters (kW)
KF45x2	200	500	32	80	230/400	1,7
KF60x2	300	500	55	100	230/400	3,4
KF75x2	550	500	84	290	230/400	5,6
KF90x2	1000	500	125	350	230/400	6,4
KF150x2	2500	350	350	1000	230/400	16,0
KF175x2	3800	300	475	1500	230/400	20,0
KF200x2	5400	250	624	1680	230/400	36,0/oil
KF250x2	7800	250	982	3800	230/400	62,0/oil

# Screen changers: Sliding plate

Plate screen changers called also discs screen changer. Designed with a soft insulating system.

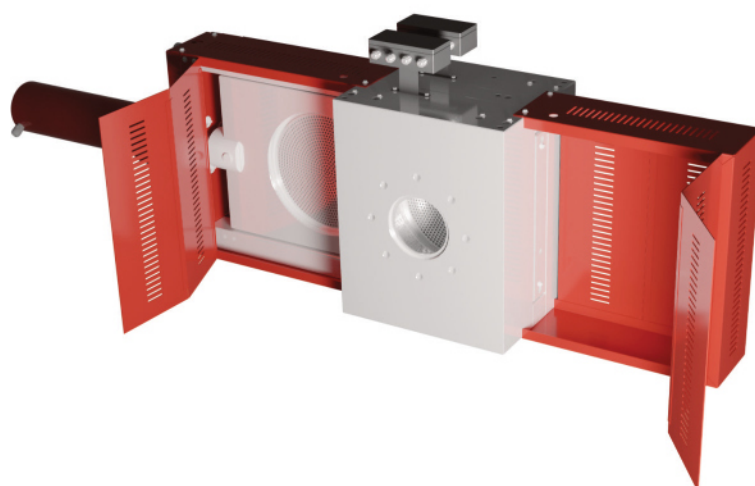
- It operates with single and twin screw extruders, applied in production of most polymers of high productivity.
- Screen change lasts around 2 sec, and the filter volume vary between Ø50 and Ø400.
- Thanks to precise processing, the changer maintains very high pressure and ensures big filter surface and the effective result of filtration.
- Perfect performance in high temperature of 300°C and high level of pressure of 250-300 bars.
- Applicable for PP, PE, PS, ABS, PET production etc.

## Filtration system - sliding plate (type HP)



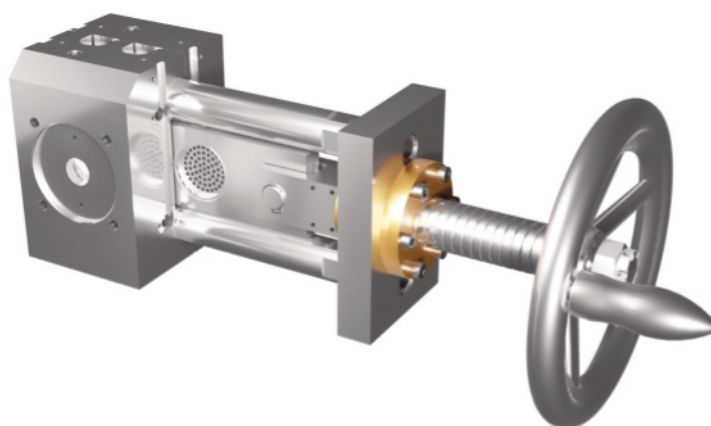
Symbol	Screen diameter (mm)	Filtration area (cm <sup>2</sup> )	Weight (kg)	Power supply (V)	Power of heaters (kW)
HP 20	20	5	50	230 / 400	0,92
HP 30	30	10	50	230 / 400	0,92
HP 45	45	20	60	230 / 400	1,02
HP 60	60	35	75	230 / 400	1,40
HP 75	75	50	120	230 / 400	2,80
HP 110	110	105	280	230 / 400	4,60
HP 130	130	145	370	230 / 400	5,84
HP 150	150	195	600	230 / 400	8,00
HP 180	180	285	1000	230 / 400	10,00
HP 220	220	415	1400	230 / 400	11,20
HP 270	270	615	2200	230 / 400	12,50
HP 320	320	855	3500	230 / 400	15,6 0

# Filtration system - sliding plate (type H)



Differences between types depends on many factors. Main factor which has influence on type is maximum possible pressure on production line. Type HP has higher resistance to high pressure values than type H. Additionally for special exetutions, slinding screenchangers can be equipped with different types of plates: standard to filtration, stop (HH) or with ventill for material flow (HV).

# Filtration system - sliding plate (type M)



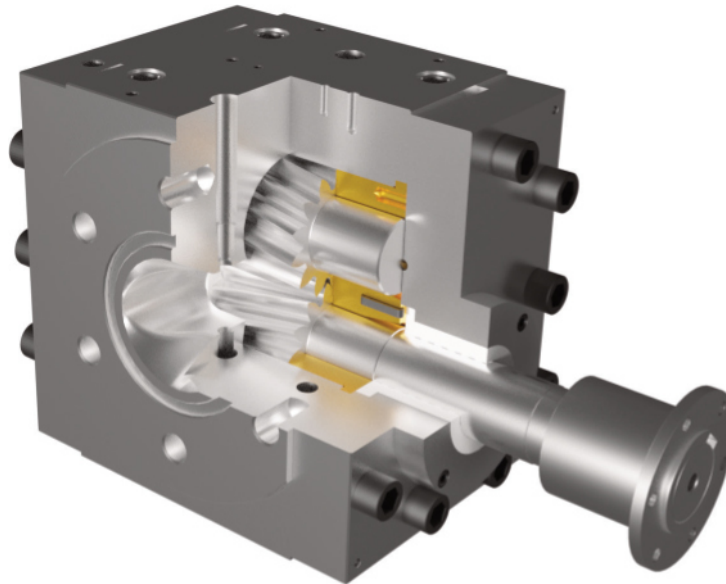
Symbol	Screen diameter (mm)	Filtration area (cm <sup>2</sup> )	Weight (kg)	Power supply (V)	Power of heaters (kW)
H 50	50	19,63	50	230 / 400	1,00
H 65	65	33,17	70	230 / 400	1,40
H 80	80	50,24	110	230 / 400	2,80
H 95	95	90,25	160	230 / 400	3,00
H 115	115	132,25	250	230 / 400	4,60
H 135	135	182,25	350	230 / 400	6,00
H 180	180	324,00	950	230 / 400	9,00
H 205	205	420,25	1300	230 / 400	10,00
H 255	255	510,25	1800	230 / 400	12,00
H 305	305	730,25	2000	230 / 400	14,00
H 355	350	990,00	2500	230 / 400	16,00

# Gear pumps for plastic extrusion type BA

## Characteristics

In our offer you can find gear pumps, which provide optimum work safety, and maximizes the efficiency of the production lines. Our gear pumps are directed to customers in the plastics, chemical, pharmaceutical, food and cosmetics industry.

Gear pumps reduce the natural pulsation of the extruder, so material absorbs less heat which causes that the product is transported in a gentler manner. Pumps of this type are recommended for production lines, which produce precision profiles, films and pellets..



Symbol	Displacement (cm <sup>3</sup> /rotation)	Efficiency (kg/h) min.	Efficiency (kg/h) max.
BA 1	10,2	45	75
BA 2	25,2	105	178
BA 5	46,3	151	285
BA 10	92,6	300	570
BA 17	176	570	1090
BA 35	371	1050	2300
BA 70	716	2050	3950



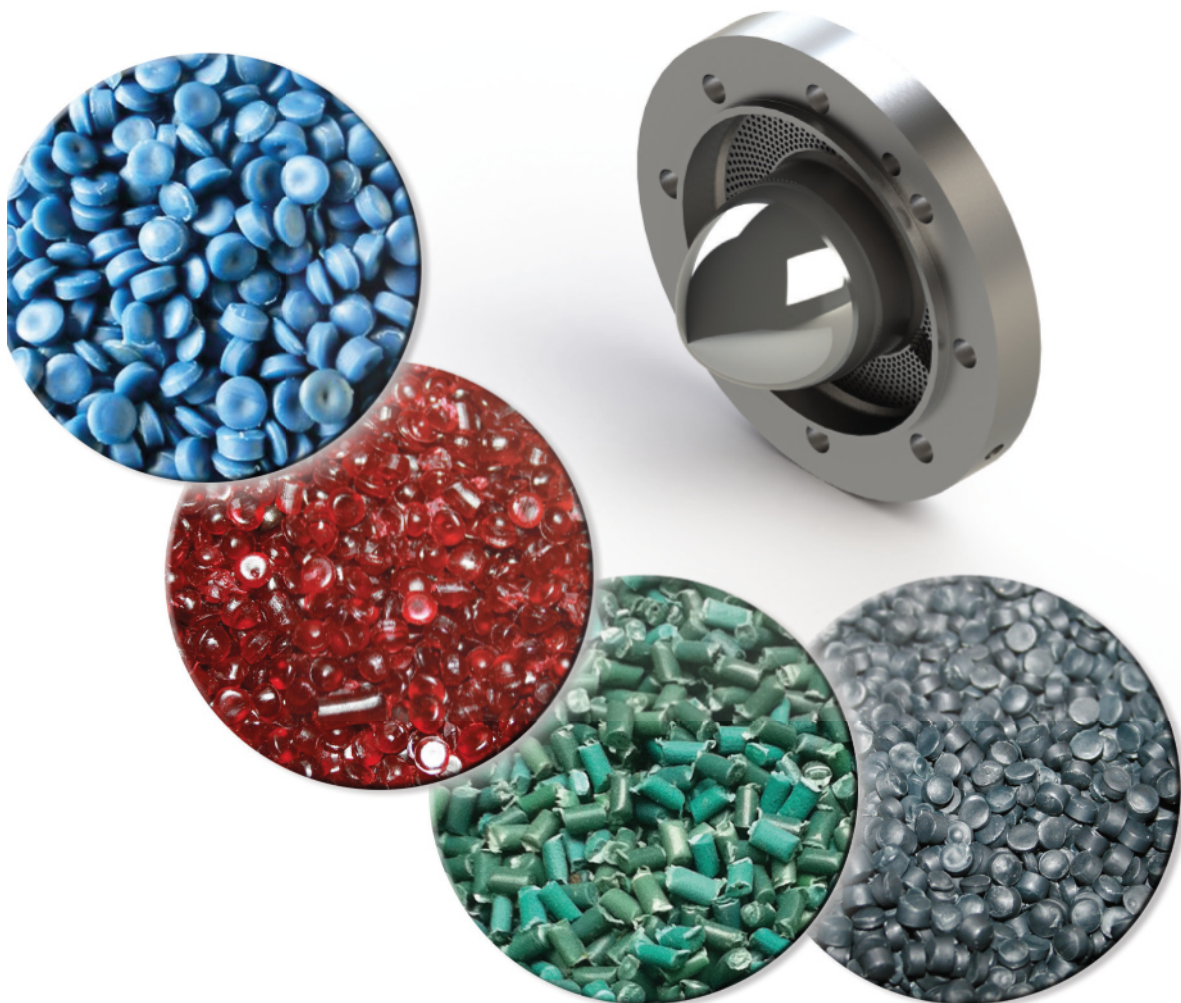


# Granulation of PVC

The line is designed for the pellet and re-pellet production obtained from plastics, especially focused on PVC processing. It is adjusted to cooperate with single and twin screw extruders.

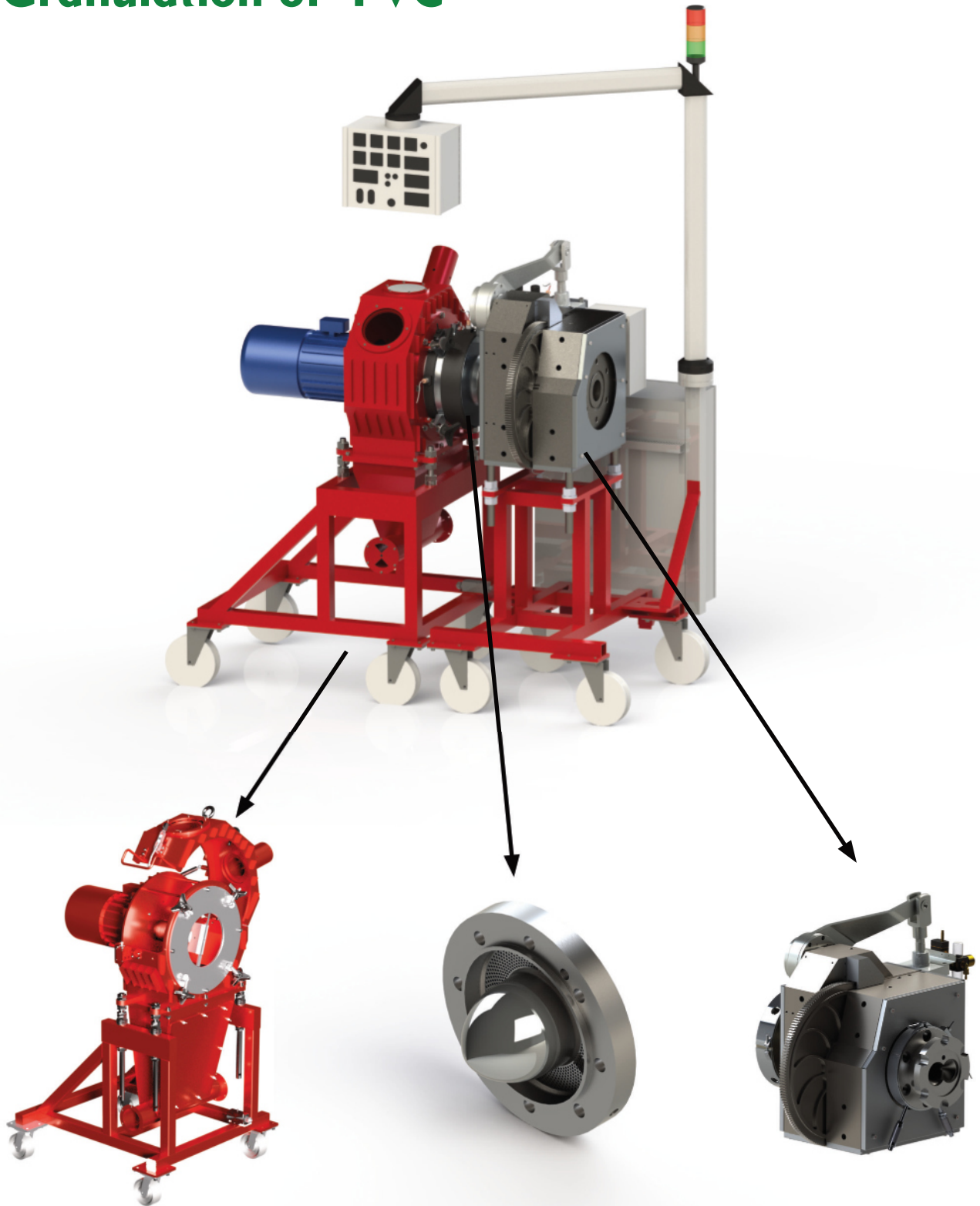
The line consists of :

- Screen changer, thanks to which our final product is cleaned from contamination before granulation head. It permits the production of high quality and cleanliness level pellets
- Pelleting head customized for every client according to the requirements of pellet size and performance.
- Cutting set which during the work, it permits a clear preview of pellet production and it gives opportunity to separate the set and pelleting head, and a simple and quick cutting knife change in regard to all safety requirements.
- Transport hopper possible to connect with big bag transport machines.
- Control box equipped with all necessary displays and drivers.  
Trolleys for screen changer and granulator for convenience of transport.





# Granulation of PVC



## Cutting set

- security casing,
- knife,
- transport hopper.

## Pelleting head

- customized for every customer according to requirements of size and performance pellets.

## Screen changer

- adjusted to performance requirements.



# Regeneration

We offer repair service for all screen changes and their complete technical service. We specialize in regenerating worn-out and damaged elements.

Thanks to many years of our experience, our products are characterized by high quality and customers satisfaction.

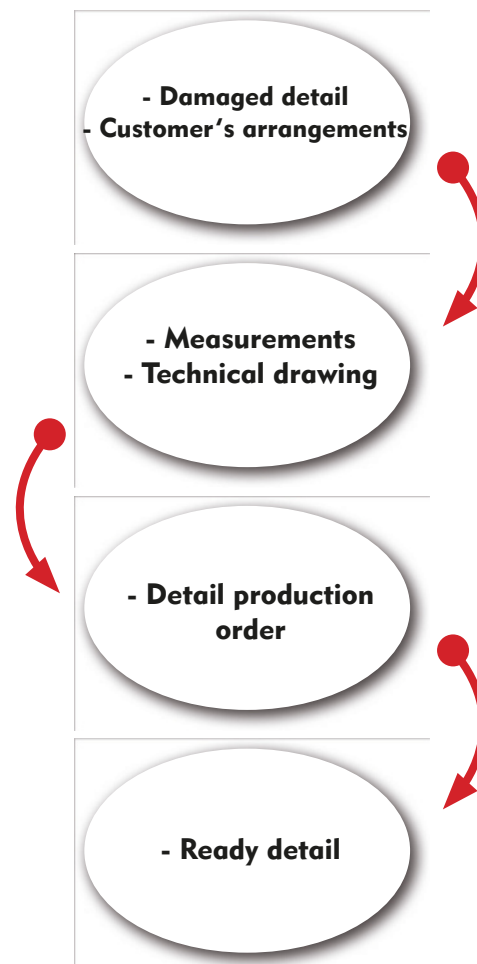
We possess a construction office (with CAD system based on Solidworks) and we provide consulting services within technical solutions and machine facilities in plastic processing industry with the emphasis on filtration process.

We repair as well as select new details based on damaged, worn-out or presented in the customer's documentation ones.

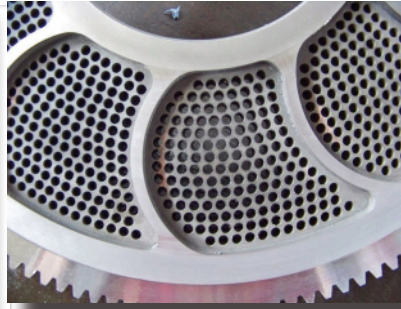
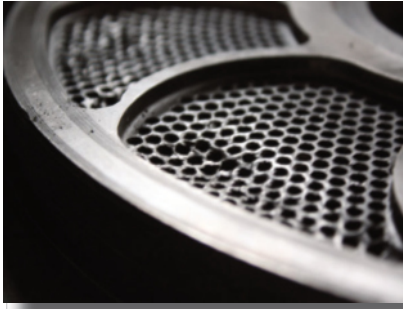
We prepare a 3D visualization of details and we adjust our machines to the customer's connection.

Examples of 3D detail visualization made for our customers:

- connecting flanges,
- connectors,
- additional holes in details, eg. for pressure, and temperature sensors,
- screws for extruders,
- knives for pelletizers and mills,
- covers, guards,
- heaters for machines,
- various types of machine parts,
- etc.



# Regeneration



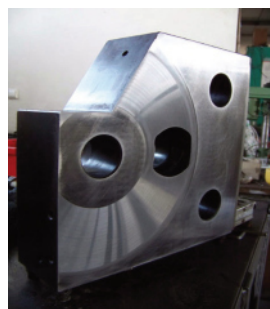
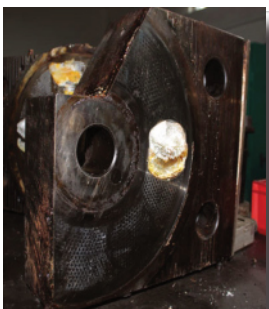
**Repair**



**Detail  
production**



**Machine  
regeneration**



**Regeneration**



# Filtration screens



## Filtration aim in plastic processing industry

In our offer you can find square mesh and non-mesh filter screens made of different types of steel. Screens can be single or multi layer (multiple layers improve the homogenization of melted plastic). Molten plastics and their solutions contain additives of different size.

Melted plastics and their solutions contain various impurities of different sizes. These impurities include substances from: catalytic agents, wear of mechanical parts, separated and burnt residue from between the cylinder and the screw, corrosion etc. However, most of the impurities are found in regranulated material and additives, such as: dyes, colorants and fibers. The following are also considered impurities in plastics: partially polymerized plastics, unmelted granulated products and deformable gels.

The above impurities should be eliminated or separated from the melted plastic, since they:

- decrease the quality of the final product,
- decrease the imperiousness and quality of the film,
- decrease the electric strength in cable tubes,
- decrease the durability of fibers and films and other products,
- increase the coarseness of surfaces,
- accelerate material aging,
- decrease visual properties (color),
- cause the wear of machine parts as: nozzles, melt pumps etc.

## Areas of application

Filtration, screening, classification, drainage, separation, protection

The proper choice of the net is crucial to the production process. Because of that do not forget to clearly specify:

- The selection of the best parameter screen has a decisive impact on production. Therefore, the result should be precisely defined, as well as size impact. You should remember to precisely define the following:
- Range of application,
- Filtration precision,
- chemical and mechanical requirements
- Production process conditions (temperature, pressure, etc.),
- Any further procedures applicable,
- Possible further procedures.

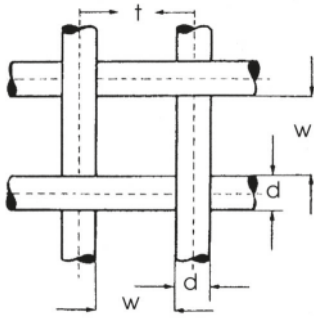
## Technical information

Wired filter screens made of different weaves. According to fibre type, strength as well as to some extent the capacity to accept additives may be changed. In case of many applications it is the cheapest and good enough filter media. When it comes to a simple fibre square mesh, longitudinal parts and deforming gels may move without obstacles.

Metal non-woven consists of great amount of thin stainless steel fibres which in order not to be moved and increase stability are permanently attached at the joints through burning. There is a possibility to produce a big hole filter device which is characterized by a high level capacity to receive contaminants. Contaminants do not appear mainly on the surface, but inside, therefore the filtration is called EDM filtration. The non-woven can be easily put into a star shape, so that in case of candle filtration bigger filtration surface may be gained. The curved edge can be troublesome, because in this case, like in case of any other fibres, filtration quality cannot be guaranteed, and even more, fibres are often damaged. Particularly in case of expensive candles, they have been regenerated for economic reasons. Mechanical burden is reduced through burning. In this case, fibres are also often damaged.

Such systems are commonly applied in screen changers, special structures, and candle filters. When it comes to disc filters, flow speed is smaller and little tension may separate soft parts as well as gels.

## Screen definition



$$t = w + d$$

w – Mesh size in mm

d – Wire thickness in mm

t – Division length in mm

$$A_0 = \frac{w^2}{(w+d)^2}$$

$$\text{Mesh} = \frac{25,4}{w+d} = \frac{25,4}{t}$$

Screen consists of two crossing systems :

Warp = lengthwise in a mesh

Strand = widthwise in a mesh

Commentary on screen technology:

w = Mesh size: distance from neighbouring wires, along the warp and strand

d = Wire thickness: diameter of the wire with which the screen is woven

t = Division: distance between middles of neighbouring wires: also as calculation

A<sub>0</sub> = Open surface: percentage of open mesh to the screen surface

A<sub>0</sub> = (in round percentage)

Mesh size linearly: mesh number in a length unit.

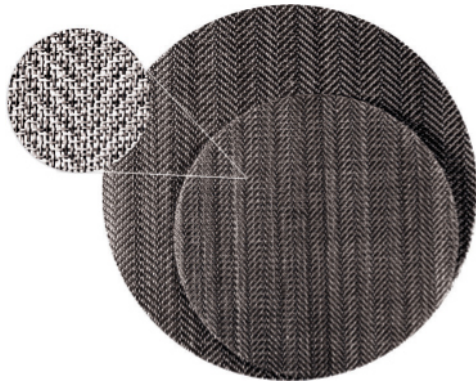


## The most often used materials

Material symbol	Material no. acc. to DIN	Abbreviated symbol	Strength N/mm <sup>2</sup>
Steel	1,0012	Fe	35-50
spring steel	1,0400	C-St	110-220
Copper	2,0065	E-Cu	18-26
Brass	2,0321	CuZn37	290-370
brass-pinchbeck	2,0250	CuZn20	320-400
Bronze	2,1020	CuSn6	340-640
Nickel	2,4066	Ni99,4	430-550
Monel	2,4361	NiCu30Fe	500-600
Aluminium	3,3555	AlMg5	180-250



## Square mesh screen - Spigata type (SPG)

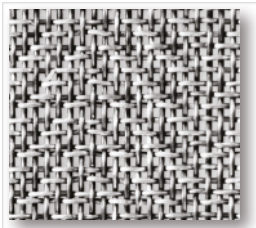


Symbol	Mesh	Wire diameter mm	Accuracy in $\mu\text{m}$
Spg 24	24	0,50	630
Spg 30	30	0,42	500
Spg 45	45	0,35	300

### Properties

- Square mesh
- Mesh made of thicker wires
- Durable construction, due to the applied weave

Due to its properties and strength, it is recommended for all recycling facilities.



We can produce any type of filter according to a given design

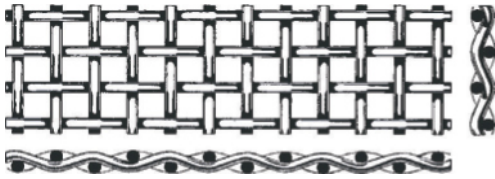
We offer filters, strainers and screens according to the customer's needs. In order to get a prepared offer, filter sample, drawing and technical documentation must be sent. The following information should be also defined:

- Material quality,
- Type of material, fabric or type of a sheet and its parameters,
- Annual item number or series item number.



We can produce any type of filter according to a given design

## Square mesh screens



### Features

Square meshes

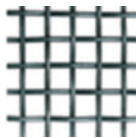
- Warp and weft equally strong
- Easy to clean
- Equal holes
- Good flow strength
- Relatively big open surface (do 81%), resulting small pressure loss during filtration process

### Total filtration:

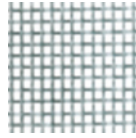
It is the diameter of the largest spherical hard particle which may penetrate the filter in an invariable flow.

### Nominal filtration:

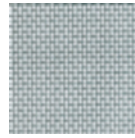
A term adopted to describe the removal of 98% of random particles larger than this size.



Mesh: 2  
w = 6,300



Mesh: 20  
w = 0,800



Mesh: 150  
w = 0,100



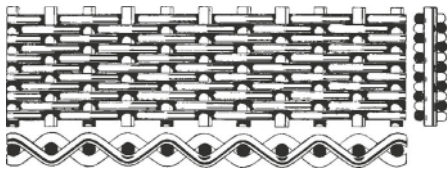
Mesh: 250  
w = 0,063

## Square mesh screens

Mesh size mm	Wire diameter Ø mm	Open area %	Mesh per cm <sup>2</sup>	Mesh per inch	Weight(steel) kg/m <sup>2</sup>
0,025	0,025	25	40,000	500	0,16
0,036	0,028	32	24,430	400	0,16
0,040	0,035	28	17,777	325	0,21
0,050	0,040	31	12,343	280	0,23
0,063	0,040	37	9,428	250	0,20
0,075	0,050	30	6,400	200	0,25
0,090	0,050	41	5,102	180	0,23
0,100	0,063	38	3,758	150	0,31
0,125	0,080	37	2,381	120	0,40
0,140	0,110	31	1,600	100	0,61
0,160	0,100	38	1,482	100	0,40
0,200	0,125	38	949	80	0,61
0,250	0,160	37	595	60	0,79
0,280	0,220	31	400	50	1,23
0,315	0,160	44	445	50	0,69
0,400	0,230	40	252	40	1,04
0,500	0,320	37	149	32	1,59
0,550	0,300	42	139	30	1,55
0,630	0,250	51	130	28	0,91
0,630	0,400	37	94	25	1,97
0,800	0,500	38	59	20	2,44
0,870	0,400	47	62	20	1,55

## Meshless screens

### Plain SPW (Tresa)



#### Features:

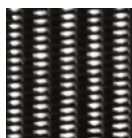
- non-mesh weave,
- Weft wires thicker than warp wires,
- warp wires situated as close to each other as possible,
- High precision,
- Insignificant pressure losses during filtration,
- more stable than square and rectangular mesh net,
- relatively large filtrating surface.

#### Main areas of application:

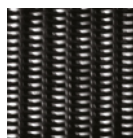
- Designed for almost all filtration purposes

Symbol	Mesh per inch	Filtration accuracy		Weight kg/m <sup>2</sup>	Mesh width in mm
		Nominal $\mu\text{m}$	Total $\mu\text{m}$		
SPW 34	80x700	25	32-36	0,98	0,25
SPW 40	80x400	36	36-45	0,82	0,23
SPW 45	2/50x250	30	42-48	1,15	0,31
SPW 63	50x250	40	56-63	1,00	0,32
SPW 71	50x280	45	71-75	1,00	0,32
SPW 75	40x200	56	75-80	1,30	0,40
SPW 100	30x150	63	100-112	1,60	0,50
SPW 125	24x110	80	112-125	2,70	0,67
SPW 260	14x88		250-280	3,15	0,76
SPW 300	12x64		280-300	4,10	1,21

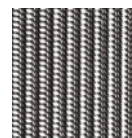
To describe meshless screens, we give the number of warp and weft wires per inch or retention, that is the capacity what the filter fabric has to retain solid parts of a set size.



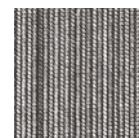
12x64



14x88



24x110

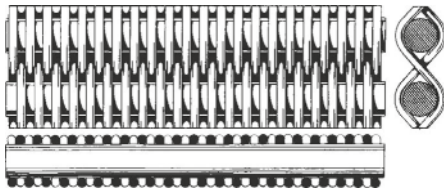


30x150

On the customer's request, we can deliver filter screens of any parameters.

## Meshless screens

### Panzer Weave PW



#### Main areas of application

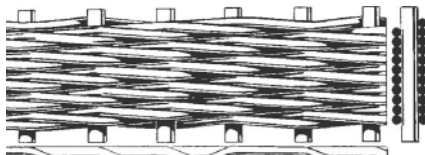
- Settling traps and well filters,
- Pressure filters and filter candles.

#### Features:

- Non-mesh weave,
- Weft wires thicker than warp wires,
- Desired net stability,
- High tensile strength and high mechanical resistance to,
- Stress in the direction of weft and warp,
- Uniform filtration accuracy,
- Particularly high flow power,
- Easy to clean,
- High efficiency of pollutants trapping.

Symbol	mesh for inch	Filtration accuracy		Water flow (l/min)	Thickness (Mm)
		nominala ( $\mu\text{m}$ )	total ( $\mu\text{m}$ )		
PW 10	912x154	10	12-14	6,50	0,15
PW 17	630x130	17	22-25	6,00	0,21
PW 40	290x75	40	50-55	6,20	0,35
PW 55	171x51	55	64-72	7,10	0,57
PW 60	175x50	60	82-94	8,10	0,57
PW 80	130x35	80	98-106	7,10	0,77
PW 100	130x30	100	122-130	9,30	0,83
PW 150	110x20	150	200-215	9,10	1,03
PW 200	63x18	200	210-215	12,00	1,34

### Diagonal DTW (Tresa)



#### Main areas of application

- Fine filtration: in hydraulic kits in critical areas, e.g. in cosmonautics and fuel filters, as well as filters of combustion chambers,
- Coarse mesh: settling tanks and well filters.

#### Features:

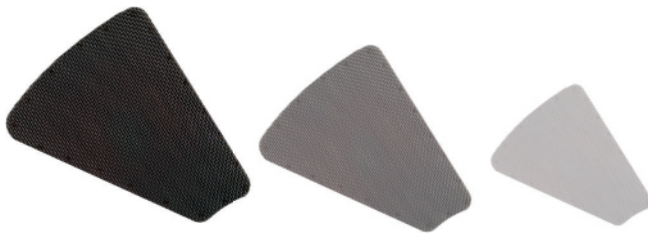
- Non-mesh weave,
- Very dense weave,
- Greater ability of reverse flush through Dense position of wires,
- Very low absolute filtration fineness (5-6  $\mu\text{m}$ )
- Equally plain on both sides
- Better filtration results with little viscous media

Symbol	Mesh per inch	Filtration accuracy		Water flow l/min	Mesh width in mm
		Nominal $\mu\text{m}$	Total $\mu\text{m}$		
DTW 4	400x2800	1	5-6	2,00	0,07
DTW 6	375x2300	1	6-7	1,80	0,08
DTW 8	325x2300	2	8-9	2,50	0,09
DTW 12	200x1400	5	11-13	3,20	0,14
DTW 16	200x1420	9	15-17	9,60	0,16
DTW 18	165x1400	10	15-18	4,80	0,15
DTW 20	165x1100	12	20-21	8,80	0,16

## Dedicated screens

We also have got in our offer dedicated screens for screen changers:

Rotary	Plate / Bolts	Band
SF	HS	KPZ
SFX	Artec	Britas
RSF	Rings	
KSF	Oval	
Trapeze		



In our offer there are also dociski for screen changers:

- RF 45
- RF 60
- RF 75
- RF 150
- RF 175
- RF 200
- RF 250





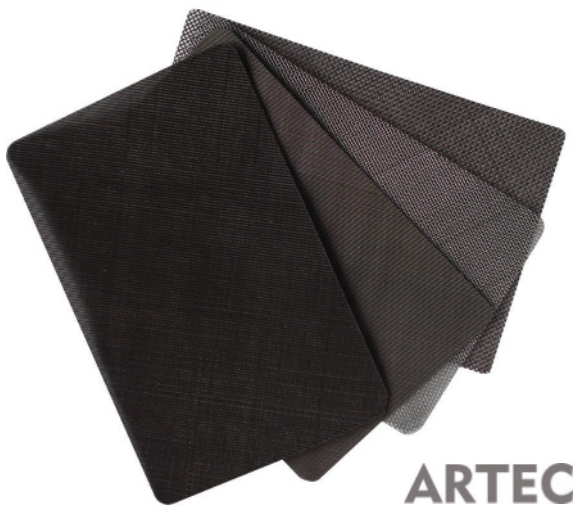
## Screens for order

We offer filters, strainers and screens according to the customer's needs. In order to get a prepared offer, filter sample, drawing and technical documentation must be sent. The following information should be also defined:

- Material quality,
- Type of material, fabric or type of a sheet and its parameters,

In our store, we have meshless screens made of steel and acid-resistant steel which are available as regular and filter rollers. Standard roll width is 1000 mm.

Standard width of the roll is 1000 mm.







# Partners

# Brabender Technologie GmbH & Co. KG

# Kubota



## Kubota Brabender Technologie GmbH

Kubota Brabender Technologie GmbH & Co. KG deals with supplying silos and containers with pneumatic transport for plastic, rubber and chemical as well as food processing industries.

The producer of weighing systems for accessories with volumetric and gravimetric feeders of high performance and fineness.

With the use of pressure or vacuum scales system, we put main ingredients which are obtained from silos and day containers and weighed into the mixer.

To produce blends with softening oils, tanks, storage containers and heating or regular scales are provided.

To store ready blends, devices for pneumatic transport,

storage silos with or without homogenization and big

bags or container feeding units are used.

To feed extruders, devices for pneumatic transport with

screens, automatic and screw feeders are used.

To install mixing lines, electric and processor controls for

storage, transport, scales and mixers with the software to control recipes which automatically ordered will produce blends.

Within processor controls, raw material balancing with the automatic memory of produced blends in the SCL

data base is provided.

Within processor controls, raw material balancing with

the automatic memory of produced blends in the SQL



# Kubota Brabender Technologie GmbH & Co. KG

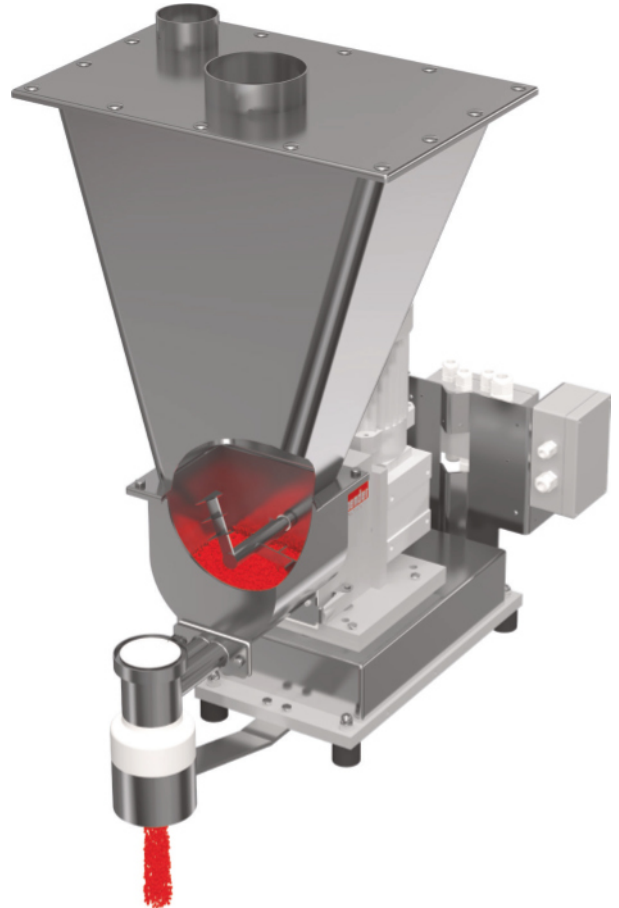
Kubota

brabender  
TECHNOLOGIE

Kubota Brabender Technologie GmbH

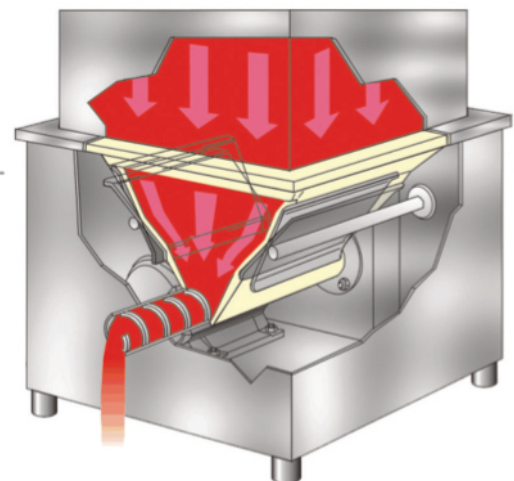
## Products:

- feeding systems,
- screw feeders,
- self-priming devices,
- transport devices,
- big bag unloaders,
- screens,
- gravimetric scales,
- volumetric scales,
- pressure scales,
- vacuum scales,
- silos,
- storage containers,
- specialist control for transport and storage.



Brabender Technologie GmbH & Co.KG dispensing systems are used all over the world in the bulk materials industry, eg in the plastics industry for mixing and extrusion, in the chemical industry (detergents, cosmetics, pharmaceuticals), food (feed, sugars), in industry construction (ceramics, glass, roof tiles, etc.).

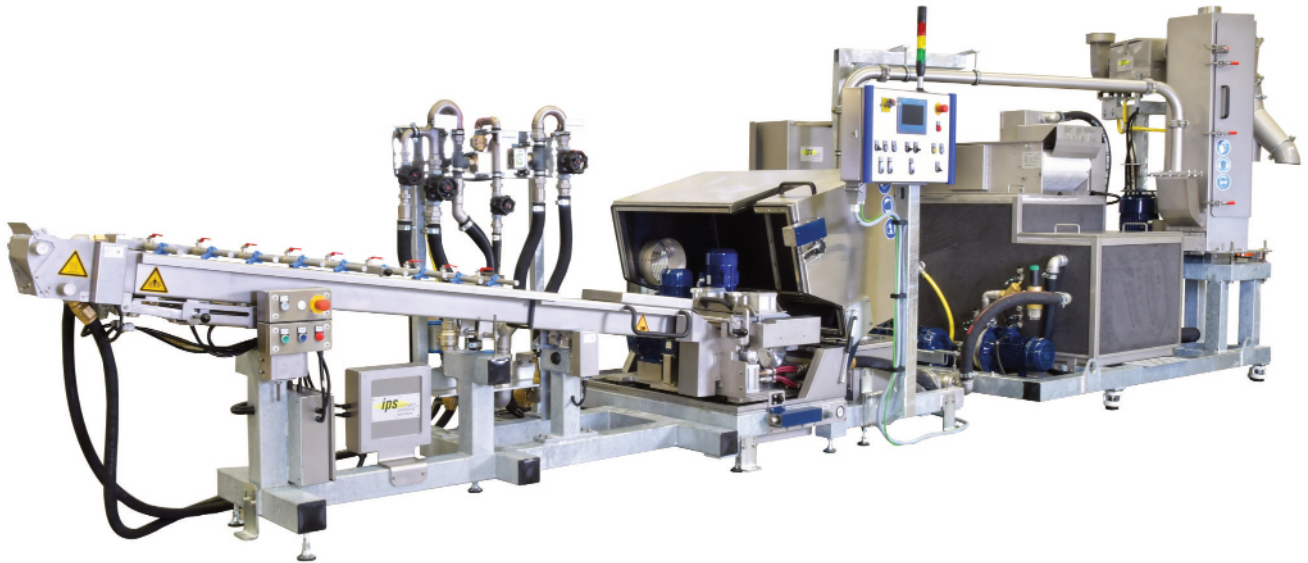
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47055 Duisburg, Niemcy  
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 **Bagsik**<sup>®</sup>  
[www.bagsik.net](http://www.bagsik.net)



# IPS Intelligent Pelletizing Solutions GmbH & Co KG



"What started life as a "three-man operation" in 1998, is today – with an SME character – the only owner-run family company in our branch in Germany. With the entry into the company of Simon und Julian Weis, the two sons of owner Gerald Weis, ips has set the course for continuity and the future. We combine our many years of experience, German machine construction and the personal competence of each individual employee with creative engineering, modern technology and a special level of service, to produce tomorrow's innovative system solutions. Backed up by the entire ips team. Furthermore, the longstanding involvement of a private investor gives us additional financial latitude to consistently pursue a growth course."

## Products:

- strand die heads,
- strand cooling systems,
- pelletizing systems,
- underwater pelletizing systems,
- Pellet dryers,

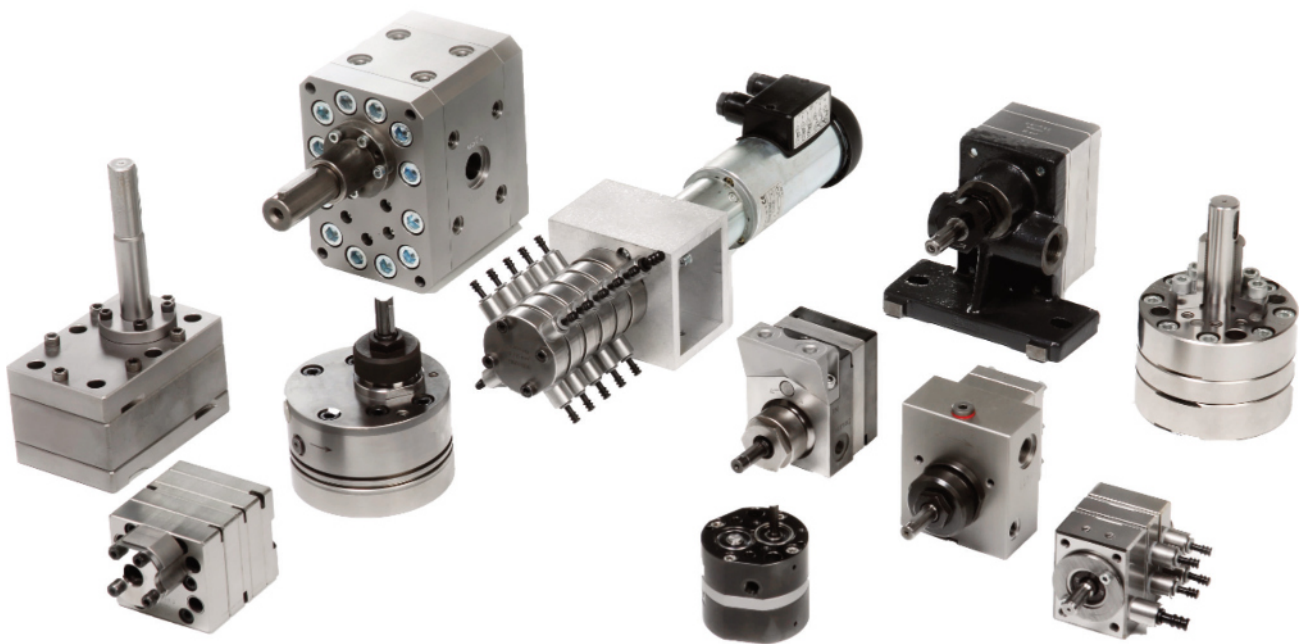
Partners

IPS Intelligent pelletizing solutions GmbH & Co. KG  
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# Oerlikon Textile GmbH & Co. KG

**oerlikon**  
barmag



## Products:

- gear pumps for adhesives,
- gear pumps for conveying,
- gear pump for metering,
- gear pump for paint,
- gear pump for vacuum,

Oerlikon Barmag gear metering pumps are used worldwide as process engineering components in applications involving chemicals, plastics, paints and dyes as well as PUR.

Oerlikon has a high precision flow control components business that offers a large selection of gear metering pumps for the textile and other industries, including the automotive, chemical and paint markets. With Oerlikon HRSflow the division develops innovative hot runner systems for the polymer processing industry. In cooperation with Oerlikon Balzers, highly efficient and effective coating solutions are offered here from a single source.

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**X-Compound GmbH**

# **X-COMPOUND**

Plastic compounding plants



**Products:**

- continuous kneader technology,
- cable compounds,
- calander feeding,
- pvc compounds,
- vinyl flooring,
- elastomers,
- masterbatches.

We design, develop and manufacture Continuous Kneaders since 1997 striving to optimize the technology invented in 1942 by Heinz List. We evolved into a worldwide leading manufacturer of Continuous Kneaders. Our Continuous Kneaders and complete compounding plants are tailor-made for your application and engineered to produce materials with the best quality at lowest operational costs. Our Kneaders are exceptionally well suited to handle temperature sensitive, shear sensitive as well as highly filled materials for a broad range of applications



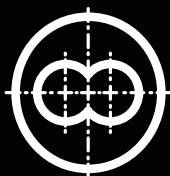
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