

DP04

Paddle-Type Flow Switch with Shortenable Paddle

- for liquids
- with shortenable paddle universal for DN 20 to DN 200
- screw-in spigot for T-pieces or direct pipe installation
- plastic- or stainless steel paddle
- low pressure loss, instant response
- switching function depends on flow only, not on pressure and temperature of fluid
- with plug connector, optional with jacket cable
- switching ranges: 1,1...45 m³/h
- **P_{max}: 25 bar, T_{max}: 110 °C**



Description:

The model DP04 flow switches operate according to the paddle principle. The flowing liquid pushes against the surface area of a paddle mounted at the end of a pivoting arm. The dynamic pressure against the plate deflects the arm. This motion causes a permanent magnet attached on the other end of the arm to switch an adjustable reed contact located outside the liquid being monitored. By moving the reed contact, different switching points can be set.

Two repulsive magnets generate the restoring force. This results in better long-term stability and higher tolerance to pressure peaks.

The possibility of installing the flowmeter directly in the pipeline and shortening the paddle individually results in very flexible areas of application.

Typical applications:

The DP04 paddle flow switch is suitable for monitoring the switching point of low-viscosity liquids.

Typical fields of application:

- Cooling systems
- Heating systems
- Welding systems
- Laser cooling systems

Due to the paddle principle the device is really intensive to dirt.

Models and switching ranges

DP04.K. with plastic paddle,
(for installation in T-piece acc. to EN 10242)

Nominal-sizes	Cut paddles to			Switching points [m ³ /h] ¹⁾		Max. flow rate [m ³ /h]
	Mark	Dimensions [mm]	Installation length L ₁ [mm]	Switch on at ²⁾ : rising	Switch off at: falling	
DN 20	9	12 x 9	40	1,1	0,9	4
DN 25	9	12 x 9	40	1,7	1,5	8,5
	15	12 x 15	46	1,3	1,1	5
DN 32 ³⁾	9	12 x 9	40	2,9	2,6	15
	20	12 x 20	51	1,9	1,6	8
DN 40 ³⁾	9	12 x 9	40	4,2	3,8	25
	30	12 x 30	61	2,1	1,8	10
DN 50 ³⁾	9	12 x 9	40	6,5	6	41
	40	12 x 40	71	2,7	2,4	14

¹⁾ water, 20 °C, horizontal pipeline, tolerance +/-15 %

²⁾ typical values

³⁾ values for min. and max. paddle lengths are given. Values for intermediate paddle lengths see operating instructions

DP04.K. with plastic paddle,
(for direct installation by means of weld-in socket acc. to EN 10241, G 1/2 female thread, 15 mm long)

Nominal-sizes	Cut paddles to			Switching points [m ³ /h] ¹⁾		Max. flow rate [m ³ /h]
	Mark	Dimensions [mm]	Installation length L ₁ [mm]	Switch on at ²⁾ : rising	Switch off at: falling	
DN 65	15	12 x 15	46	8,8	8,5	50
	40	12 x 40	71	4,5	4,2	27
DN 80 ³⁾	15	12 x 15	46	13,8	11,3	80
	60	12 x 60	91	5,1	4,7	30
DN 100 ³⁾	20	12 x 20	51	18,8	16,3	110
	80	12 x 80	111	6,4	5,8	40
DN 150 ³⁾	40	12 x 40	71	27	25	160
	80	12 x 80	111	15,5	14,2	100
DN 200 ³⁾	50	12 x 50	81	45	43,5	250
	80	12 x 80	111	30	29	180

¹⁾ water, 20 °C, horizontal pipeline, tolerance +/-15 %

²⁾ typical values

³⁾ values for min. and max. paddle lengths are given. Values for intermediate paddle lengths see operating instructions

DP04.E. with stainless steel paddle,
(for installation in T-piece acc. to EN 10242)

Nominal-sizes	Cut paddles to			Switching points [m ³ /h] ¹⁾		Max. flow rate [m ³ /h]
	Mark	Dimensions [mm]	Installation length L ₁ [mm]	Switch on at ²⁾ : rising	Switch off at: falling	
DN 25 ³⁾	15	12 x 15	46	1,2	1,0	10
	20	12 x 20	51	1,0	0,9	6
DN 32 ³⁾	15	12 x 15	46	2,0	1,7	20
	20	12 x 20	51	1,7	1,5	15
DN 40 ³⁾	15	12 x 15	46	3,3	3,0	34
	30	12 x 30	61	2,0	1,8	18
DN 50 ³⁾	15	12 x 15	46	4,8	4,6	55
	40	12 x 40	71	2,6	2,4	24

¹⁾ water, 20 °C, horizontal pipeline, tolerance +/-15 %

²⁾ typical values

³⁾ values for min. and max. paddle lengths are given. Values for intermediate paddle lengths see operating instructions

DP04.E. with stainless steel paddle,
(for direct installation by means of weld-in socket acc. to EN 10241, G 1/2 female thread, 15 mm long)

Nominal-sizes	Cut paddles to			Switching points [m ³ /h] ¹⁾		Max. flow rate [m ³ /h]
	Mark	Dimensions [mm]	Installation length L ₁ [mm]	Switch on at ²⁾ : rising	Switch off at: falling	
DN 65	15	12 x 15	46	7,2	6,8	100
	40	12 x 40	71	3,6	3,3	50
DN 80 ³⁾	15	12 x 15	46	11,7	11,4	150
	60	12 x 60	91	4,6	4,2	50
DN 100 ³⁾	20	12 x 20	51	16,0	15,9	200
	80	12 x 80	111	6,1	5,6	70
DN 150 ³⁾	40	12 x 40	71	24,0	22,7	290
	80	12 x 80	111	14,7	13,8	170
DN 200 ³⁾	50	12 x 50	81	41,0	38,7	450
	80	12 x 80	111	23,3	26,7	310

¹⁾ water, 20 °C, horizontal pipeline, tolerance +/-15 %

²⁾ typical values

³⁾ values for min. and max. paddle lengths are given. Values for intermediate paddle lengths see operating instructions

Technical Data:

Switching

function: brass

Pressure rating:

Plug connector: PN 25

Jacket cable: PN 10

Temperature:

Plug connector: Medium: -25...+110 °C

Ambient: -25...+80 °C

Jacket cable: Medium: -25...+100 °C

Ambient: -25...+70 °C

Electrical Data:

Electrical connection:

Plug connector DIN EN 175301-803-A
incl. cable socket (standard)
cable connection, 1,5 m PVC
jacket cable (optional)

Reed contact: N/O, N/C

Switching current: max. 1 A

Switching voltage: max. 230 V_{AC}, 45 V_{DC}

Rating: max. 26 VA, 20 W

Protection: IP65

Protection class: Class II (EN 60730-1)

Order Code:

Order number:

DP04. K. 0

**Paddle-type flow switch
(paddle can be cut individually)**

Paddle:

K = plastic

E = stainless steel

Options:

0 = without

K = cable connection (jacket cable, 1,5 m PVC-cable)

1 = please specify in plain text

Materials:

Body:

Plug connector: brass

Jacket cable: PPE+PS Noryl™ 30 % glass fibre reinforced

Paddle: PPE+PS Noryl™ 30 % glass fibre reinforced / stainless steel or stainless steel 1.4310 / brass

Pin: stainless steel 1.4571

Process connection:

Brass CW614N, G 1/2 AG

Magnet:

hard ferrite

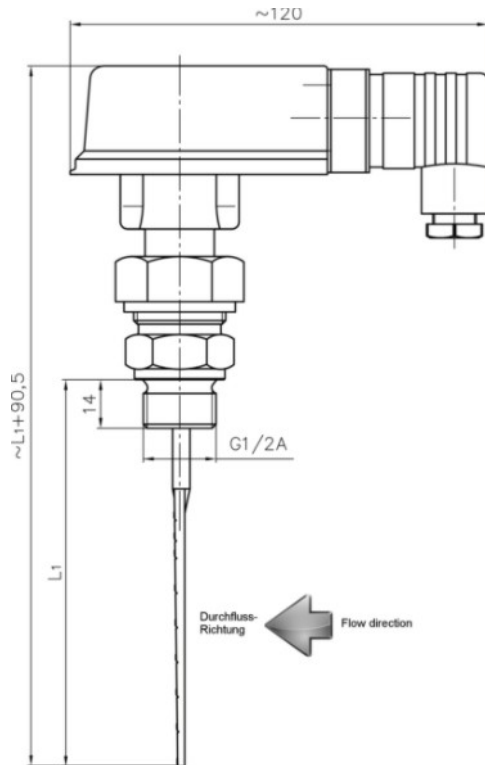
Gasket:

NBR

Dimensions:

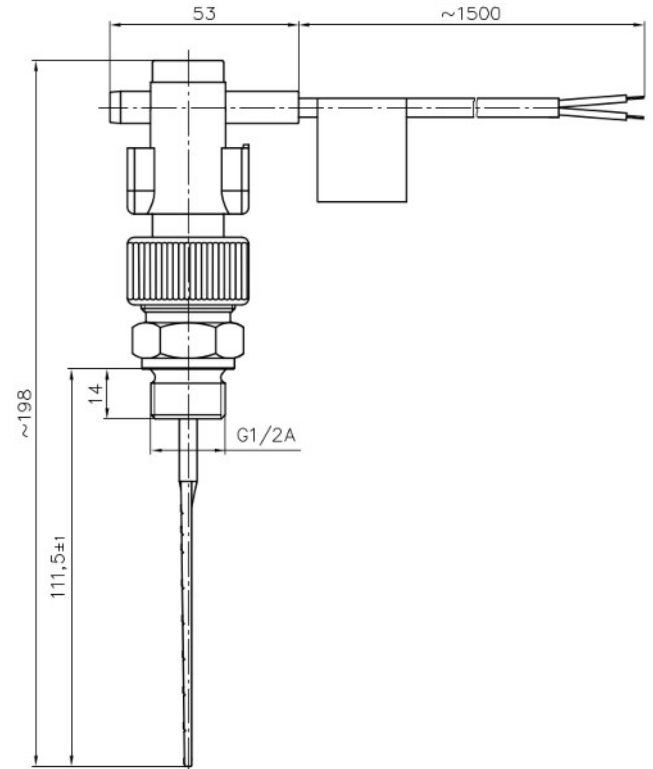
Version with plug connector (standard)

DP04.K. with plastic paddle

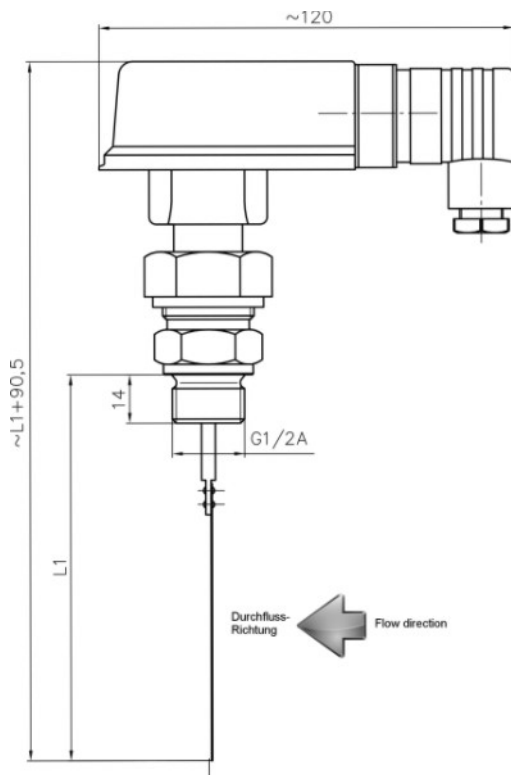


Version with jacket cable (option)

DP04.K. with plastic paddle



DP04.E. with stainless steel paddle



DP04.E. with stainless steel paddle

