



MZ SERIES



A micro switch, better known as a snap-action switch, contains a spring mechanism that opens and closes connections between 2 devices, quickly changing the current direction.

Giovenzana offers micro switches with a **IP40 degree of protection (with MZA8000 terminal enclosure)**, with high temperature resistance and a long service life. The compact, ergonomic and functional design meets the needs of various applications in the industrial field.

The wide choice of actuators allows most installation requirements to be covered. They are mainly used in workshop equipment, communication devices, test instruments, household appliances, electro-medical equipment, electrical automation instruments, lifts and elevators, etc.

The MZ series micro switches are divided into two lines characterized by different electrical connection:

- **MZS**: with screw terminals;
- **MZW**: with solder terminals.

These two lines, in turn, are divided into two groups characterised by normal body (the micro switches of **group 13**) and by raised body (the micro switches of **group 17**).

MAIN FEATURES

- High precision snap action micro switches.
- Various types of actuators are available.
- The spring mechanism switches the electrical contacts inside the microswitches.
- The power supply direction changes rapidly between the devices connected to the micro switches.
- Wide operating speed margins.
- Available in general purpose.



SPECIFICATIONS

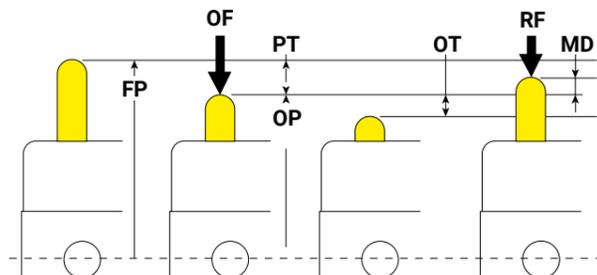
Approvals		CE, UL and UKCA			
Rating					
Rated contact voltage	UL 61058	125 V AC	250 V AC	125 V DC	250 V DC
Maximum contact current		15 A	15 A	0.5 A	0.25 A
Electrical characteristics					
Maximum contact resistance	initial	15 mΩ			
Minimum insulation resistance	at 500 V DC	100 MΩ			
Dielectric withstanding voltage	for 1 minute	1000 V AC (50 or 60 Hz)			
Mechanical characteristics					
Operating speed		0.1 mm/s ... 1 m/s			
Operating frequency		30 operations per minute			
Vibration		10 ... 55 Hz, 1.5 mm double amplitude			
Minimum operating life	electrical	1 × 10 ⁵ cycles			
	mechanical	1 × 10 ⁶ cycles			
Climatic characteristics					
Operating temperature	UL certified	0 ... +55°C (maximum humidity of 60%)			
Degree of protection	with accessory	IP40			

MZ - PRODUCT SELECTION BY TERMINAL TYPE

Screw terminals	Solder terminals	Code	Actuator
		1300	Short plunger Ø2.3
		1301	Bending lever
		1303	Bending roller lever
		1305	Long plunger Ø4
		1306	Short plunger Ø7.2
		1307	Panel mount plunger
		1308	Panel mount roller plunger
		1701	Hinge lever
		1702	Short hinge lever
		1703	Hinge roller lever
		1704	Short hinge roller lever
		1744	Unidirectional hinge roller lever
		MZA8000	Terminal enclosure

TRAVELS AND ACTUATING FORCE

OF [N]	Operating Force Force, applied to the actuator, required to operate the contacts
RF [N]	Release force Value to which the force applied to the actuator must be reduced to allow the contacts to return to the release position and reset
PT [mm]	Pretravel The distance or angle that the operator travels from the starting position to the operating position
OT [mm]	Overtravel The distance or angle that the operator travels from the operating position to the total travel position
MD [mm]	Differential movement The distance or angle that the operator travels from the activation position to the release position in which the reset occurs
FP [mm]	Initial position Initial position of the actuator (no forces applied)
OP [mm]	Operating position Position of the actuator in which the contacts are activated with a snap action, reached when the actuating force is applied



MZ - PRODUCT SELECTION BY OPERATING LEVERS

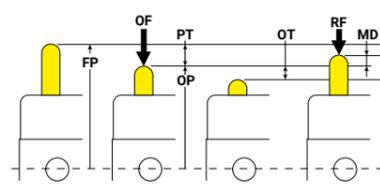
SCREW TERMINALS		SOLDER TERMINALS	
MZS13	MZS17	MZW13	MZW17

MZS13 SCREW TERMINALS - CODE SELECTION OVERVIEW

SERIES	TERMINAL TYPE	BODY CONFIGURATION	ACTUATOR TYPE
MZ	S	1 3	
MZ micro switches	S screw terminals	13 standard	00 short plunger Ø2.3 01 bending lever 03 bending roller lever 05 long plunger Ø4 06 short plunger Ø7.2 07 panel mount plunger 08 panel mount roller plunger 18 panel mount cross roller plunger

TRAVELS AND ACTUATING FORCES

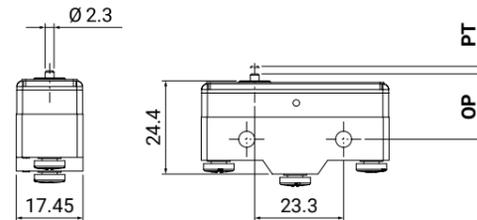
OF	[N]	Operating Force
RF	[N]	Release force
PT	[mm]	Pretravel
OT	[mm]	Overtravel
MD	[mm]	Differential movement
FP	[mm]	Initial position
OP	[mm]	Operating position



Short plunger Ø2.3

MZS1300

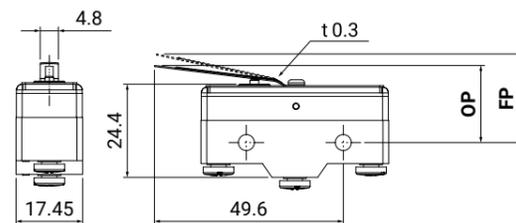
OF	max	250 .. 350 g
RF	min	114 g
PT	max	0.4 mm
OT	min	0.13 mm
MD	max	0.10 mm
FP	max	-
OP		15.9 ± 0.4 mm



Bending lever

MZS1301

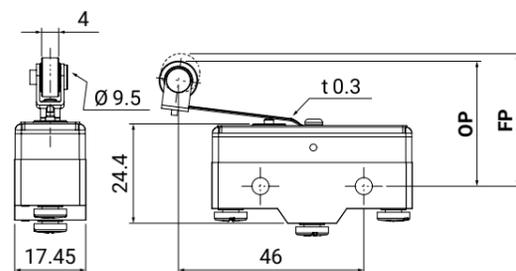
OF	max	141 g
RF	min	14 g
PT	max	4 mm
OT	min	1.6 mm
MD	max	1.3 mm
FP	max	20.6 mm
OP		17.4 ± 0.8 mm



Bending roller lever

MZS1303

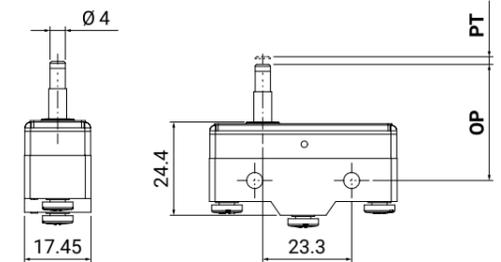
OF	max	141 g
RF	min	14 g
PT	max	4 mm
OT	min	1.6 mm
MD	max	1.3 mm
FP	max	31.8 mm
OP		28.6 ± 0.8 mm



Long plunger Ø4

MZS1305

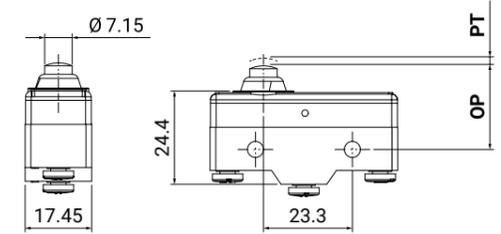
OF	max	250 .. 350 g
RF	min	114 g
PT	max	0.4 mm
OT	min	1.6 mm
MD	max	0.10 mm
FP	max	-
OP		28.2 ± 0.5 mm



Short plunger Ø7.2

MZS1306

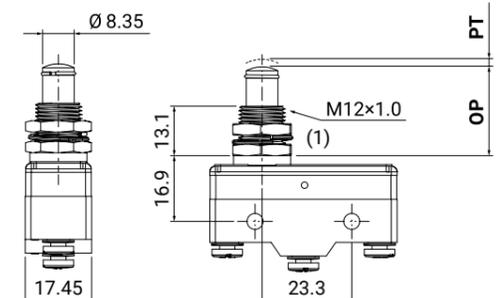
OF	max	250 .. 350 g
RF	min	114 g
PT	max	0.4 mm
OT	min	1.6 mm
MD	max	0.10 mm
FP	max	-
OP		21.5 ± 0.5 mm



Panel mount plunger

MZS1307

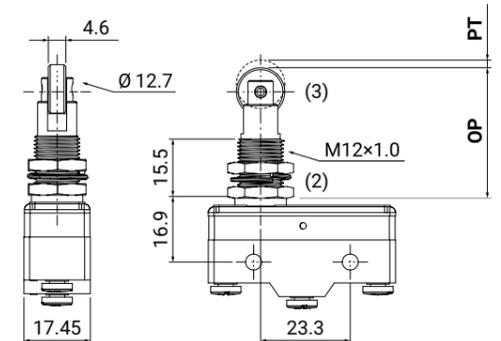
OF	max	250 .. 350 g
RF	min	114 g
PT	max	0.4 mm
OT	min	5.5 mm
MD	max	0.10 mm
FP	max	-
OP		21.8 ± 0.8 mm



Panel mount roller plunger

MZS1308

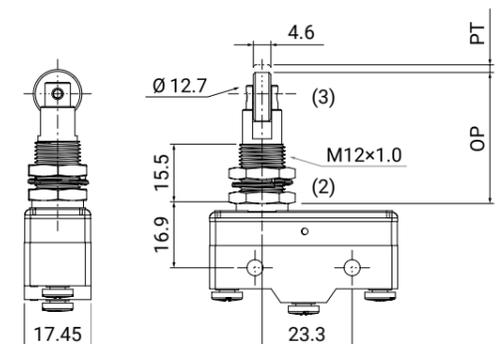
OF	max	250 .. 350 g
RF	min	114 g
PT	max	0.4 mm
OT	min	3.58 mm
MD	max	0.10 mm
FP	max	-
OP		33.4 ± 1.2 mm



Panel mount cross roller plunger

MZS1318

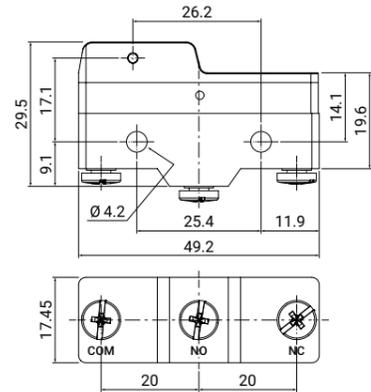
OF	max	250 .. 350 g
RF	min	114 g
PT	max	0.4 mm
OT	min	3.58 mm
MD	max	0.10 mm
FP	max	-
OP		33.4 ± 1.2 mm



(1) 2 hexagonal brass nuts 3x15 mm (2) 2 hexagonal brass nuts 3x17 mm (3) Stainless steel roller

(1) 2 hexagonal brass nuts 3x15 mm (2) 2 hexagonal brass nuts 3x17 mm (3) Stainless steel roller

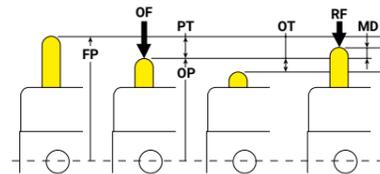
MZS17 SCREW TERMINALS - CODE SELECTION OVERVIEW



M Z	S	1 7	
SERIES	TERMINAL TYPE	BODY CONFIGURATION	ACTUATOR TYPE
MZ micro switches	S screw terminals	17 hinged	01 hinge lever 02 short hinge lever 03 hinge roller lever 04 short hinge roller lever 44 unidirectional hinge roller lever

TRAVELS AND ACTUATING FORCES

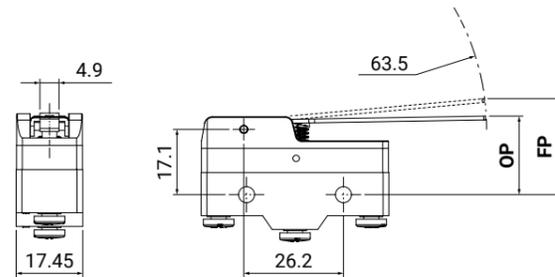
OF	[N]	Operating Force
RF	[N]	Release force
PT	[mm]	Pretravel
OT	[mm]	Overtravel
MD	[mm]	Differential movement
FP	[mm]	Initial position
OP	[mm]	Operating position



Hinge lever



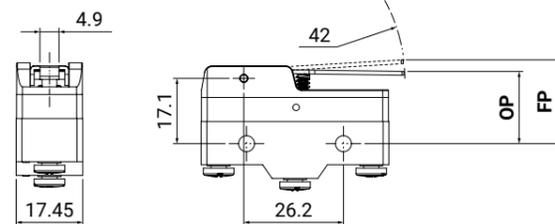
OF	max	70 g
RF	min	14 g
PT	max	10 mm
OT	min	5.6 mm
MD	max	1.27 mm
FP	max	28.2 mm
OP		19 ± 0.8 mm



Short hinge lever



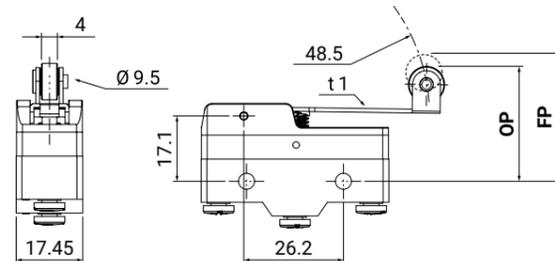
OF	max	90 g
RF	min	18 g
PT	max	7 mm
OT	min	3.5 mm
MD	max	1 mm
FP	max	26.2 mm
OP		19.8 ± 0.8 mm



Hinge roller lever



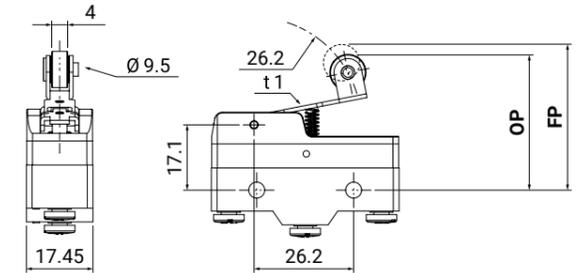
OF	max	100 g
RF	min	22 g
PT	max	7.1 mm
OT	min	4 mm
MD	max	1.02 mm
FP	max	36.5 mm
OP		30.2 ± 0.8 mm



Short hinge roller lever



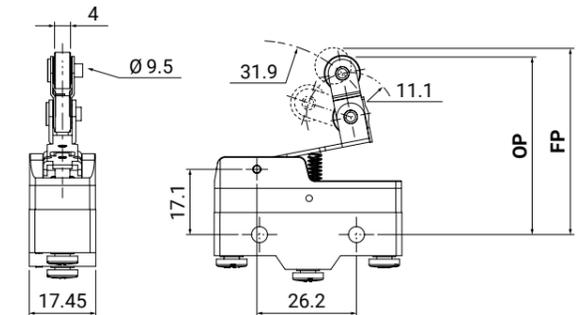
OF	max	160 g
RF	min	42 g
PT	max	2.7 mm
OT	min	2.4 mm
MD	max	0.5 mm
FP	max	32.5 mm
OP		30.2 ± 0.4 mm



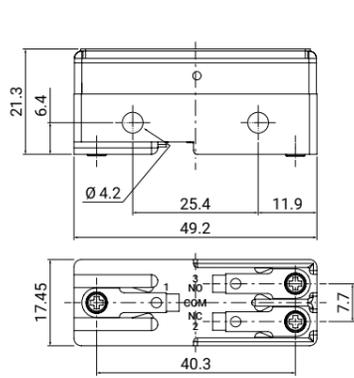
Unidirectional hinge roller lever



OF	max	170 g
RF	min	42 g
PT	max	2.7 mm
OT	min	2.4 mm
MD	max	0.51 mm
FP	max	43.6 mm
OP		41.3 ± 0.8 mm



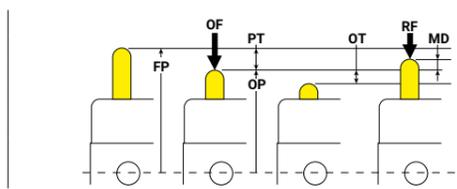
MZW13 SOLDER TERMINALS - CODE SELECTION OVERVIEW



M Z	W	1 3	
SERIES	TERMINAL TYPE	BODY CONFIGURATION	ACTUATOR TYPE
MZ micro switches	W solder terminals	13 standard	00 short plunger Ø2.3 01 bending lever 03 bending roller lever 05 long plunger Ø4 06 short plunger Ø7.2 07 panel mount plunger 08 panel mount roller plunger 18 panel mount cross roller plunger

TRAVELS AND ACTUATING FORCES

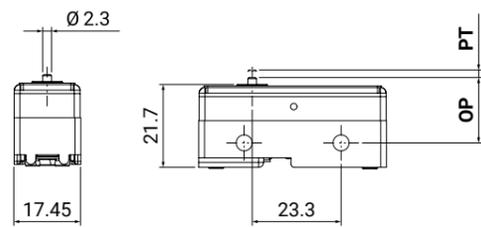
OF	[N]	Operating Force
RF	[N]	Release force
PT	[mm]	Pretravel
OT	[mm]	Overtravel
MD	[mm]	Differential movement
FP	[mm]	Initial position
OP	[mm]	Operating position



Short plunger Ø2.3



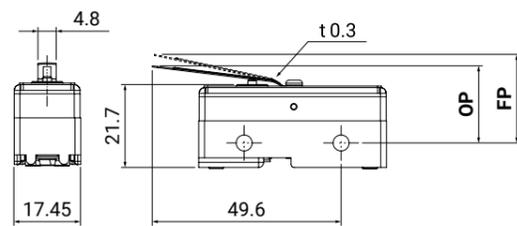
OF	max	250 .. 350 g
RF	min	114 g
PT	max	0.4 mm
OT	min	0.13 mm
MD	max	0.10 mm
FP	max	-
OP		15.9 ± 0.4 mm



Bending lever



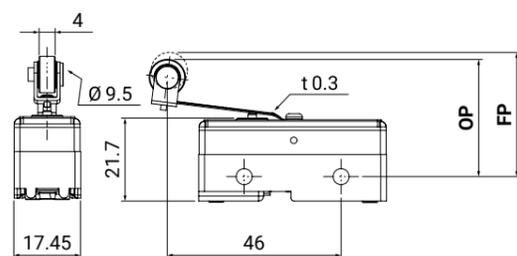
OF	max	141 g
RF	min	14 g
PT	max	4 mm
OT	min	1.6 mm
MD	max	1.3 mm
FP	max	20.6 mm
OP		17.4 ± 0.8 mm



Bending roller lever



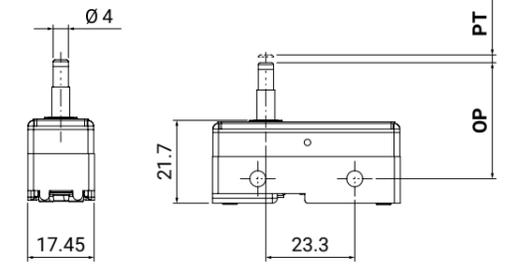
OF	max	141 g
RF	min	14 g
PT	max	4 mm
OT	min	1.6 mm
MD	max	1.3 mm
FP	max	31.8 mm
OP		28.6 ± 0.8 mm



Long plunger Ø4



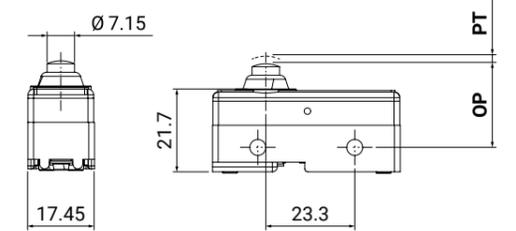
OF	max	250 .. 350 g
RF	min	114 g
PT	max	0.4 mm
OT	min	1.6 mm
MD	max	0.10 mm
FP	max	-
OP		28.2 ± 0.5 mm



Short plunger Ø7.2



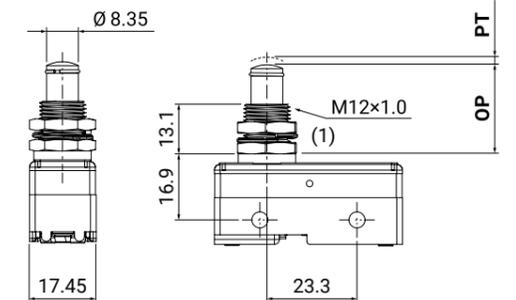
OF	max	250 .. 350 g
RF	min	114 g
PT	max	0.4 mm
OT	min	1.6 mm
MD	max	0.10 mm
FP	max	-
OP		21.5 ± 0.5 mm



Panel mount plunger



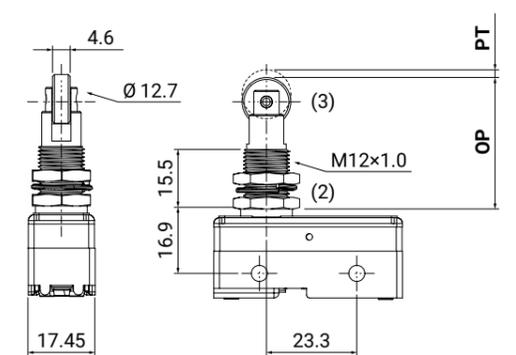
OF	max	250 .. 350 g
RF	min	114 g
PT	max	0.4 mm
OT	min	5.5 mm
MD	max	0.10 mm
FP	max	-
OP		21.8 ± 0.8 mm



Panel mount roller plunger



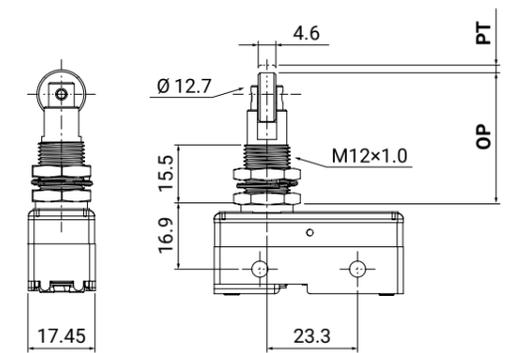
OF	max	250 .. 350 g
RF	min	114 g
PT	max	0.4 mm
OT	min	3.58 mm
MD	max	0.10 mm
FP	max	-
OP		33.4 ± 1.2 mm



Panel mount cross roller plunger



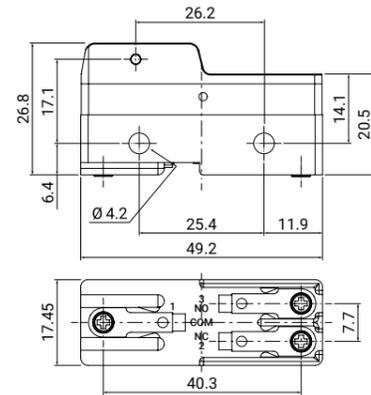
OF	max	250 .. 350 g
RF	min	114 g
PT	max	0.4 mm
OT	min	3.58 mm
MD	max	0.10 mm
FP	max	-
OP		33.4 ± 1.2 mm



(1) 2 hexagonal brass nuts 3×15 mm (2) 2 hexagonal brass nuts 3×17 mm (3) Stainless steel roller

(1) 2 hexagonal brass nuts 3×15 mm (2) 2 hexagonal brass nuts 3×17 mm (3) Stainless steel roller

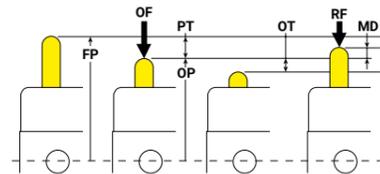
MZW17 SOLDER TERMINALS - CODE SELECTION OVERVIEW



M Z	W	1 7	
SERIES	TERMINAL TYPE	BODY CONFIGURATION	ACTUATOR TYPE
MZ micro switches	W solder terminals	17 hinged	01 hinge lever 02 short hinge lever 03 hinge roller lever 04 short hinge roller lever 44 unidirectional hinge roller lever

TRAVELS AND ACTUATING FORCES

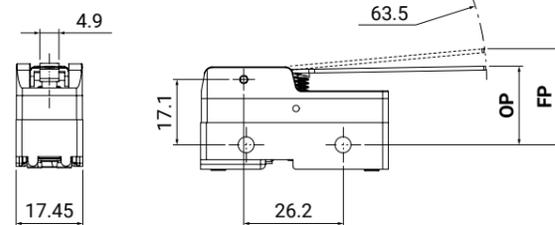
OF	[N]	Operating Force
RF	[N]	Release force
PT	[mm]	Pretravel
OT	[mm]	Overtravel
MD	[mm]	Differential movement
FP	[mm]	Initial position
OP	[mm]	Operating position



Hinge lever



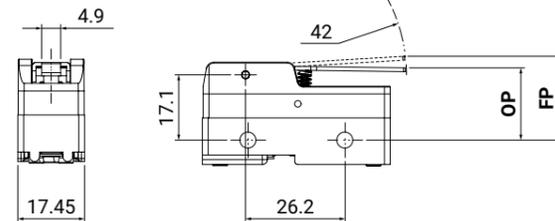
OF	max	70 g
RF	min	14 g
PT	max	10 mm
OT	min	5.6 mm
MD	max	1.27 mm
FP	max	28.2 mm
OP		19 ± 0.8 mm



Short hinge lever



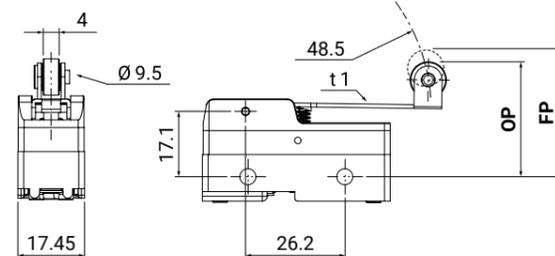
OF	max	90 g
RF	min	18 g
PT	max	7 mm
OT	min	3.5 mm
MD	max	1 mm
FP	max	26.2 mm
OP		19.8 ± 0.8 mm



Hinge roller lever



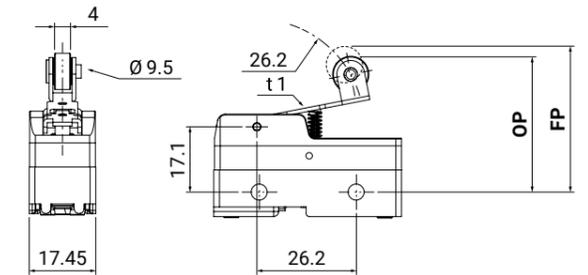
OF	max	100 g
RF	min	22 g
PT	max	7.1 mm
OT	min	4 mm
MD	max	1.02 mm
FP	max	36.5 mm
OP		30.2 ± 0.8 mm



Short hinge roller lever



OF	max	160 g
RF	min	42 g
PT	max	2.7 mm
OT	min	2.4 mm
MD	max	0.5 mm
FP	max	32.5 mm
OP		30.2 ± 0.4 mm



Unidirectional hinge roller lever



OF	max	170 g
RF	min	42 g
PT	max	2.7 mm
OT	min	2.4 mm
MD	max	0.51 mm
FP	max	43.6 mm
OP		41.3 ± 0.8 mm

