OIL-FILLED POTENTIOMETER

(Precision 1-turn, Multi-turn & Linear-motion, Wirewound, Hybrid & Conductive Plastic Element)

SAKAE Model **OF** series oil-filled potentiometers are the products of high reliability and long life expectancy, developed and marketed for the first time in Japan and can be used unaffected even in a special environment where there exist, for example, harmful salt, moisture, organic gas, etc. In addition, our OF series retain stable contact resistance for a long period of time and provide a very long life expectancy of shaft revolutions.
Most suitable applications of these potentiometers are for automatic controls in such fields as ship building, coastal electric facilities, pits and mines, iron works, chemical factories, unmanned underground facilities and numerical control machine tools. There are 3 kinds of resistive element: wirewound type which features good stability, conductive plastic type which offers long life expectancy and excellent high speed tracking ability and hybrid type which features a combination of the merits of wirewound type and conductive plastic type.
Further, the oil we use in these potentiometers is special mineral oil exclusively used for potentiometers, containing no organic substances such as PCB and therefore does not pose any fear of causing environmental pollutions.

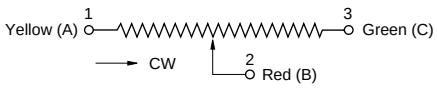
THE NOMENCLATURE OF SAKAE OIL-FILLED POT. SERIES

S **OF** **CP50** **G** - ○○○○

●Special Specifications
S means the potentiometer with special mechanical specifications not applicable to our standard.

●Type
OF means oil-filled type potentiometer.

●Terminal Connection Diagram



A,B,C in parentheses mean codes of connectors when those are mounted on the pot.

●4 digits branch number
to be used for specific requirements.

●Number of Gangs
G means 2 ganged potentiometer on the same axle. The potentiometer consists of one single section unless G is given.

●Kind of Incorporated Potentiometer
CP50 means that the incorporated potentiometer is our model CP50. Various kinds of potentiometers such as 1-turn, multi-turn and linear-motion types can be incorporated and our standard model number of the incorporated pot. is given here.

SELECTION GUIDE

Type	Applications	Kind of Element	Model No.	Features
1-turn	For general setting	Wirewound	**OF30, OF50**	Most popular as well as low-cost potentiometer in this series.
	For servo use	Wirewound	**OF50PB, OFCP50**	Precision version of the above for servo application.
		Conductive Plastic	**OF30-MCA**	Small size and long life expectancy potentiometer with essentially infinite resolution.
10-turn	For general setting	Wirewound	**OF46HD-10**	Precision 10-turn potentiometer incorporated.
	For servo use	Wirewound	**OF46HDS-10**	Precision 10-turn potentiometer incorporated and with servomount.
		Hybrid	**OF20HHP-10S** **OF20HHPS-10S**	10-turn long life expectancy potentiometer with hybrid resistive element. 2 kinds of bushingmount and servomount are available.
Linear-motion	For general setting and servo use	Wirewound	**OF10LP, OF20LP, OF40LP**	Precision linear-motion long life expectancy potentiometer incorporated.

●General Performances

Kind of Element	Model No.	Standard Total Resistance Range (Ω)	Special Lower Resistance Values (Ω)	Special Higher Resistance Values (Ω)	Independent Linearity Tolerance (%)	Special Specifications			
						Front and Rear Shaft Extension	Extra Taps	With Switch	Multi-ganged
Wirewound (1-turn type)	**OF30**	500～10k	50～200	20k	±2.0～±0.5	—	○	—	—
	OF50	100～100k	5～50	200k	±1.0～±0.5	○	○	—	○
	OF50PB	100～100k	5～50	200k	±1.0～±0.5	○	○	—	○
	OFCP50	1k～50k	50～500	—	±0.5～±0.1	○	○	—	○
Conductive Plastic (1-turn type)	**OF30-MCA**	1k～10k	—	20k, 50k, 100k	±1.0～±0.5	—	○	—	—
Wirewound (10-turn type)	**OF46HD-10 OF46HDS-10**	100～100k	50	200k	±0.3～±0.1	○	—	○	○
Hybrid (10-turn type)	**OF20HHP-10S OF20HHPS-10S**	2k～100k	—	—	±0.25～±0.1	—	○	—	—
Wirewound (Linear-motion type)	**OF10LP**	100～20k	50	40k	±1.0～±0.25	○	—	—	—
	OF20LP	100～50k	50	80k	±0.7～±0.25	—	○	—	—
	OF40LP	100～50k	50	100k	±0.5～±0.1	—	○	—	—

Note: 1. For detailed performances, please refer to the general specifications of each model in this catalog.

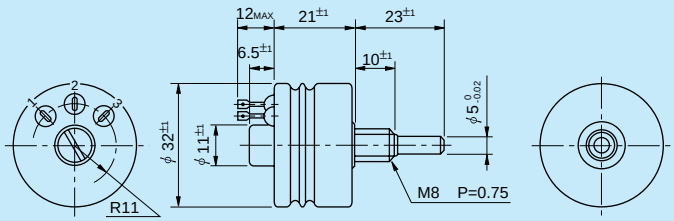
●Environmental Performances

Model Nos. / Parameters	OF30, OF50, OF50PB, OFCP50, OF46HD	OF30-MCA, OF20HHP	OF10LP, OF20LP, OF40LP
Operating Temperature Range	-30℃～+60℃	-30℃～+60℃	-30℃～+60℃
Temperature Cycle	5 cycles under -30℃～+60℃ Total resistance value variation: below ±5% No mechanical damage	5 cycles under -30℃～+60℃ Total resistance value variation: below ±5% No mechanical damage	5 cycles under -30℃～+60℃ Total resistance value variation: below ±5% No mechanical damage
Exposure at Low Temperature	24 hours at -30℃ Total resistance value variation: below ±5% No mechanical damage	24 hours at -30℃ Total resistance value variation: below ±5% No mechanical damage	24 hours at -30℃ Total resistance value variation: below ±5% No mechanical damage
Exposure at High Temperature	1,000 hours at 60 ℃ Total resistance value variation: below ±5% No mechanical damage	1,000 hours at 60 ℃ Total resistance value variation: below ±5% No mechanical damage	1,000 hours at 60 ℃ Total resistance value variation: below ±5% No mechanical damage
Vibration	10Hz to 2,000Hz 98m/s² 12 hours Total resistance value variation: below ±5% No mechanical and electrical damage	10Hz to 2,000Hz 98m/s² 12 hours Total resistance value variation: below ±5% No mechanical and electrical damage	10Hz to 2,000Hz 98m/s² 12 hours Total resistance value variation: below ±5% No mechanical and electrical damage
Shock	294m/s² 11ms 18 times Total resistance value variation: below ±1% No mechanical and electrical damage	294m/s² 11ms 18 times Total resistance value variation: below ±1% No mechanical and electrical damage	294m/s² 11ms 18 times Total resistance value variation: below ±1% No mechanical and electrical damage
Moisture Resistance	40℃ 95%RH 2,000 hours Total resistance value variation: below ±10% Insulation resistance: over 100MΩ	40℃ 95%RH 2,000 hours Total resistance value variation: below ±10% Insulation resistance: over 100MΩ	40℃ 95%RH 2,000 hours Total resistance value variation: below ±10% Insulation resistance: over 100MΩ
Rotational Life Expectancy (at 25℃)	No load at 40 r.p.m. OF30, OF50.....200,000 shaft revolutions OF46HD-10 .....2,000,000 shaft revolutions OF50PB, OFCP50 ..... 5,000,000 shaft revolutions Total resistance value variation: below ±5% against initial value Independent linearity tolerance: below 150% of specified value Noise: below 500Ω E.N.R.	No load at 120 r.p.m. OF30-MCA .....10,000,000 shaft revolutions OF20HHP-10....5,000,000 shaft revolutions Total resistance value variation: below ±10% against initial value Independent linearity tolerance: below 150% of specified value Output smoothness: below 150% of specified value	No load at 60 c.p.m. OF10LP .....500,000 shaft reciprocating motions OF20LP .....2,000,000 shaft reciprocating motions OF40LP .....5,000,000 shaft reciprocating motions Total resistance value variation: below ±5% against initial value Independent linearity tolerance: below 150% of specified value Noise: below 500Ω E.N.R.

Note: 2. In case of the potentiometer with special resistance values and special specifications, the above performances may change and therefore, please consult us in advance, separately.
3. As for operating temperature range, we can not guarantee that all values of performances can satisfy within this operating temperature range. (Please see page 24 in this catalog for further details.)
4. The above values of performances based on each testings were measured after each testings completed, respectively, under standard conditions. As for the values during testings and other values not mentioning in the above table, please ask us separately.

Model OF30

●Standard Dimensions



Note: 1 pc. each inner teeth washer and hex nut are attached.

●General Specifications

Standard Resistance Range: 500Ω to 10kΩ
Max. Practical Resistance Value: 20kΩ
Total Resistance Tolerance: Standard Class ±10% (K)
Precision Class ±5% (J)
Independent Linearity Tolerance: Standard Class ±2.0%
Precision Class ±0.5%
Power Rating: 0.75W
Noise: Below 100Ω E.N.R.

Electrical Travel: 280° ±5°
Mechanical Travel: 360° (Endless)
Insulation Resistance: Over 100MΩ at 1,000V.D.C.
Dielectric Strength: 1 minute at 1,000V.A.C.
Starting Torque: Below 30mN•m (300gf•cm)
Resist. Temperature Coefficient of Wire: ±20p.p.m./℃
Mass: Approx. 40g

●Standard Resistance Values ■No. of Wire Turns ■Resistance Wire Used

Resist. Value (Ω)	500	1k	2k	5k	10k	※ 20k
No. of Wire Turns	400	500	650	900	1,100	1,500
Resist. Wire Used	Ni-Cr System					

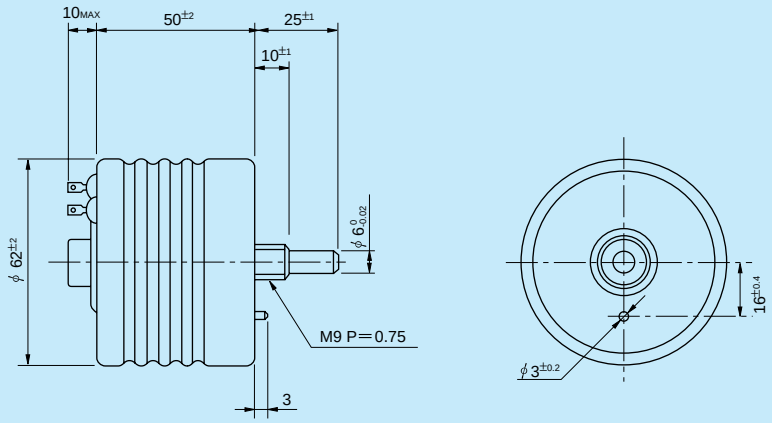
Note: Mark ※ shows value at special higher practical resistance.

●Special Specifications Available

Special lower practical resistance values (50Ω to 200Ω), Extra taps (Available up to 1 tap), Special electrical travel, Shaft dia. (∅3.175mm)•bushing with inch dimensions, Special machining on the shaft, With stopper (Rotating angle becomes 300° and stopper strength is 0.3N•m [3kgf•cm]).

Model OF50

Standard Dimensions



Note: 1 pc. inner teeth washer and 2 pcs. hex nuts are attached.

General Specifications

Standard Resistance Range:	100Ω to 100kΩ
Max. Practical Resistance Value:	200kΩ
Total Resistance Tolerance:	Standard Class ±10% (K) Precision Class ±5% (J)
Independent Linearity Tolerance:	Standard Class ±1.0% Precision Class ±0.5%
Power Rating:	5.0W
Noise:	Below 100Ω E.N.R.
Electrical Travel:	280° ±5°
Mechanical Travel:	300° ±5°
Insulation Resistance:	Over 100MΩ at 1,000V.D.C.
Dielectric Strength:	1 minute at 1,000V.A.C.
Starting Torque:	Below 30mN•m (300gf•cm)
Stopper Strength:	Approx. 0.9N•m (9kgf•cm)
Resist. Temperature Coefficient of Wire:	±20p.p.m./℃
Mass:	Approx. 300g

Standard Resistance Values ■No. of Wire Turns ■Resistance Wire Used

Resist. Value (Ω)	100	200	500	1k	2k	5k	10k	20k	50k	100k	※ 200k
No. of Wire Turns	260	320	370	420	550	650	900	1,000	1,200	1,400	1,700
Resist. Wire Used	Cu-Ni System					Ni-Cr System					

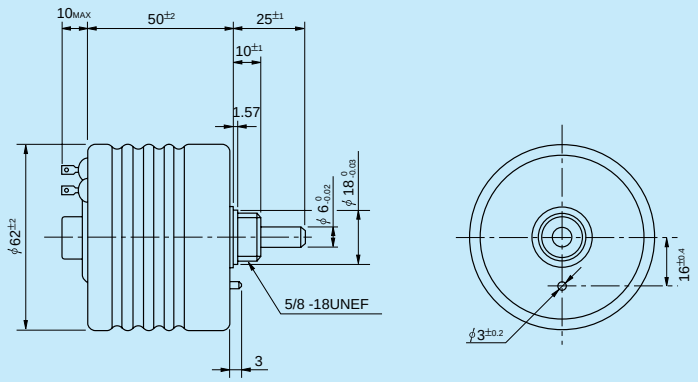
Note: Mark ※shows values at special higher practical resistance.

Special Specifications Available

Special lower practical resistance values (5Ω to 50Ω), Extra taps (Available up to 1 tap), Multi-ganged (Available up to 2 gangs. Please note that mounting method is changed from bushingmount to screw-mounting), Special electrical travel, Shaft dia. (∅6.35mm)•bushing with inch dimensions. Special machining on the shaft, Without stopper (electrical travel remains 280° ±5°), Shaft with front and rear extension (Rear shaft with 6mm dia. and 25mm length).

Model OF50PB

●Standard Dimensions



Note: 1. 1 pc. each inner teeth washer and hex nut are attached.
2. Please process the mounting hole on the panel to be mounted with this potentiometer by the diameter of 18mm $^{+0.05}_{0}$.

●General Specifications

Standard Resistance Range:	100Ω to 100kΩ
Max. Practical Resistance Value:	200kΩ
Total Resistance Tolerance:	Standard Class ±10% (K) Precision Class ±5% (J)
Independent Linearity Tolerance:	Standard Class ±1.0% Precision Class ±0.5%
Power Rating:	5.0W
Noise:	Below 100Ω E.N.R.
Electrical Travel:	280° ±5°
Mechanical Travel:	300° ±5°
Insulation Resistance:	Over 100MΩ at 1,000V.D.C.
Dielectric Strength:	1 minute at 1,000V.A.C.
Starting Torque:	Below 30mN•m (300gf•cm)
Stopper Strength:	Aprrox. 0.9N•m (9kgf•cm)
Resist. Temperature Coefficient of Wire:	±20p.p.m./℃
Mass:	Approx. 330g

●Standard Resistance Values ■No. of Wire Turns ■Resistance Wire Used

Resist. Value (Ω)	100	200	500	1k	2k	5k	10k	20k	50k	100k	※ 200k
No. of Wire Turns	260	320	370	420	550	650	900	1,000	1,200	1,400	1,700
Resist. Wire Used	Cu-Ni System					Ni-Cr System					

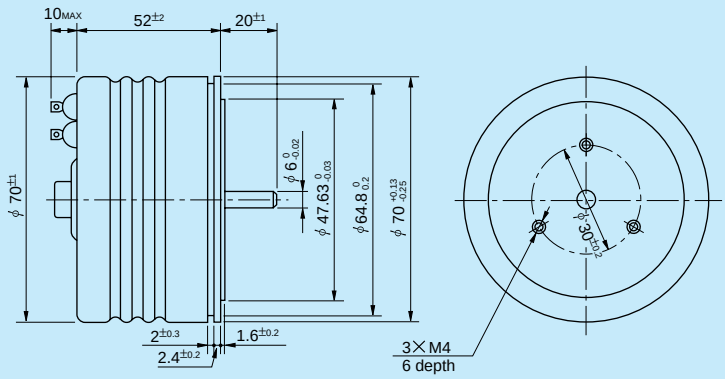
Note: Mark ※ shows value at special higher practical resistance.

●Special Specifications Available

Special lower practical resistance values (5Ω to 50Ω), Extra taps (Available up to 1 tap), Multi-ganged (Available up to 2 gangs), Special electrical travel, Shaft dia. (∅6.35mm)•bushing with inch dimensions, Special machining on the shaft, Without stopper (electrical travel remains 280° ±5°), Shaft with front and rear extension (Rear shaft with 6mm dia. and 25mm length).

Model OFCP50

Standard Dimensions



General Specifications

Standard Resistance Range:	1kΩ to 50kΩ
Total Resistance Tolerance:	Standard Class ±3% (H) Precision Class ±1% (F)
Independent Linearity Tolerance:	Standard Class ±0.5% Precision Class ±0.1% (±0.2% in case of below 2kΩ)
Power Rating:	1.5W
Noise:	Below 100Ω E.N.R.
Electrical Travel:	355° ±3°
Mechanical Travel:	360° (Endless)
Insulation Resistance:	Over 100MΩ at 1,000V.D.C.
Dielectric Strength:	1 minute at 1,000V.A.C.
Starting Torque:	Below 30mN•m (300gf•cm)
Resist. Temperature Coefficient of Wire:	±20p.p.m./℃
Mass:	Approx. 500g

Standard Resistance Values ■No. of Wire Turns ■Resistance Wire Used

Resist. Value (Ω)	1k	2k	5k	10k	20k	50k
No. of Wire Turns	1,000	1,250	1,810	2,180	2,780	3,500
Resist. Wire Used	Ni-Cr System					

Special Specifications Available

Special lower practical resistance values (50Ω to 500Ω), Extra taps (Available up to 3 taps), With stopper (Rotating angle becomes 330° and the stopper strength is 0.9N•m [9kgf•cm]), Special electrical travel, Shaft dia. (∅6.35mm) with inch dimensions, Special machining on the shaft, Shaft with front and rear extension. (Rear shaft with 6mm dia. and 20mm length).

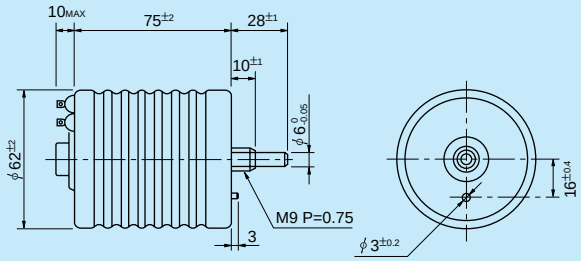
Model OF46HD-10

●Standard Model Nos.

Bushingmount type:
OF46HD-10 (10-turn)
Servomount type:
OF46HDS-10 (10-turn)

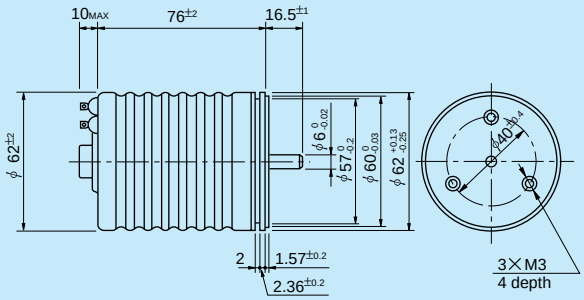
●Standard Dimensions

■Bushingmount Type



Note: 1 pc. inner teeth washer and 2 pcs. hex nuts are attached.

■Servomount Type



●General Specifications

Standard Resistance Range:	100Ω to 100kΩ
Max. Practical Resistance Value:	200kΩ
Total Resistance Tolerance:	Standard Class ±3% (H) (±5% (J) in case of below 1kΩ) Precision Class ±1% (F)
Independent Linearity Tolerance:	Standard Class ±0.3% Precision Class ±0.1% (±0.15% in case of on and below 5kΩ)
Power Rating:	5.0W
Noise:	Below 100Ω E.N.R.
Electrical Travel:	3,600° ±10°
Mechanical Travel:	3,600° 0°
Insulation Resistance:	Over 100MΩ at 1,000V.D.C.
Dielectric Strength:	1 minute at 1,000V.A.C.
Starting Torque:	Below 30mN•m (300gf•cm)
Stopper Strength:	Approx. 0.9N•m (9kgf•cm)
Max. Working Voltage:	900V
Resist. Temperature Coefficient of Wire:	±20p.p.m./℃
Mass:	Approx. 290g

●Standard Resistance Values ■No. of Wire Turns ■Resistance Wire Used

Resist. Value (Ω)	100	200	500	1k	2k	5k	10k	20k	50k	100k	※ 200k
No. of Wire Turns	2,500	3,180	4,350	5,400	6,850	6,660	8,550	10,850	14,900	18,850	24,390
Resist. Wire Used	Cu-Ni System					Ni-Cr System					

Note: Mark ※ shows values at special higher practical resistance.

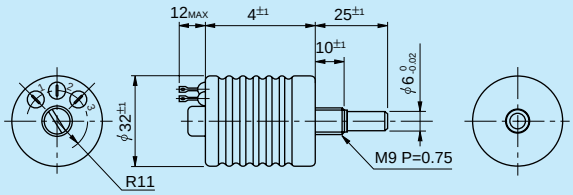
●Special Specifications Available

Multi-ganged (Available up to 2 gangs. Please note that mounting method is changed from bushingmount to screw-mounting), With limit-switches, 3-turn and 5-turn type(These housing lengths are the same as that of 10-turn type:75±2mm), Shaft dia. (∅6.35mm)•bushing with inch dimensions, Special machining on the shaft, Shaft with front and rear extension. (Rear shaft with 6mm dia. and 28mm length.).

Model OF20HHP-10S

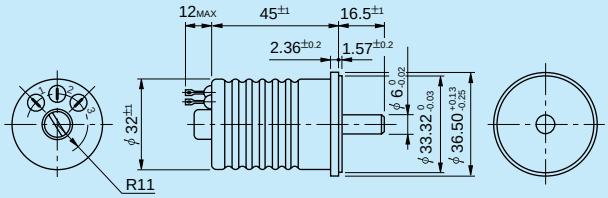
●Standard Dimensions

■Bushingmount Type



Note: 1 pc. inner teeth washer and 2 pcs. hex nuts are attached.

■Servomount Type



●Standard Model Nos.

Bushingmount type:
OF20HHP-10S (10-turn)
Servomount type:
OF20HHPS-10S (10-turn)

●General Specifications

Standard Resistance Values:	2k, 5k, 10k, 20k 50k, 100k (Ω)
Total Resistance Tolerance:	Standard Class ±10% (K) Precision Class ±5% (J)
Independent Linearity Tolerance:	Standard Class ±0.25% Precision Class ±0.1%
Resolution:	Essentially infinite
Output Smoothness:	Below 0.015% against input voltage
Contact Resistance Variation:	Below 3% C.R.V.
Power Rating:	2.0W
Electrical Travel:	3,600° ±5°
Mechanical Travel:	3,600° +10° 0°
Insulation Resistance:	Over 100MΩ at 1,000V.D.C.
Dielectric Strength:	1 minute at 1,000V.A.C.
Starting Torque:	Below 20mN•m (200gf•cm)
Stopper Strength:	Approx. 0.9N•m (9kgf•cm) (Bushingmount type) Approx. 0.6N•m (6kgf•cm) (Servomount type)
Max. Working Voltage:	300V
Resistance Temperature Coefficient:	±100p.p.m./℃
Mass:	Approx. 100g

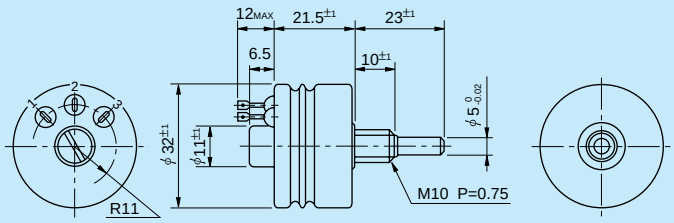
●Special Specifications Available

Extra taps (Available up to 1 tap), 5-turn type, Shaft dia. (∅6.35mm)•bushing with inch dimensions, Special machining on the shaft, Wirewound resistive element type (Model OF20HP and OF20HPS. For technical details of these types, please refer to those of models 20HP and 20HPS in this catalog.).

MODEL OF30-MCA (Bushingmount)

Model OF30-MCA

Standard Dimensions



Note: 1 pc. each wave washer and hex nut are attached.

General Specifications

Standard Resistance Values:	1k, 2k, 5k, 10k (Ω)
Special Practical Resistance Values:	500, 20k, 50k, 100k (Ω)
Total Resistance Tolerance:	Standard Class ±10% (K)
Independent Linearity Tolerance:	Standard Class ±1.0% Precision Class ±0.5%
Resolution:	Essentially infinite
Output Smoothness:	Below 0.1% against input voltage
Contact Resistance Variation:	Below 2% C.R.V.
Power Rating:	1.0W
Electrical Travel:	280° ±5°
Mechanical Travel:	360° (Endless)
Insulation Resistance:	Over 100MΩ at 1,000V.D.C.
Dielectric Strength:	1 minute at 1,000V.A.C.
Starting Torque:	Below 30mN•m (300gf•cm)
Resistance Temperature Coefficient:	±400p.p.m./℃
Mass:	Approx. 40g

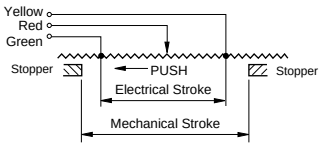
Special Specifications Available

Extra taps (Available up to 1 tap), Special electrical travel, Shaft dia. (∅6.35mm)•bushing with inch dimensions, Special machining on the shaft, Servomount type (Mounting dimensions are the same as those of OF20HHPS and housing length becomes 25.5mm.).

MODEL OF10LP (With front and rear extended shaft and with leadwires)

Model OF10LP100

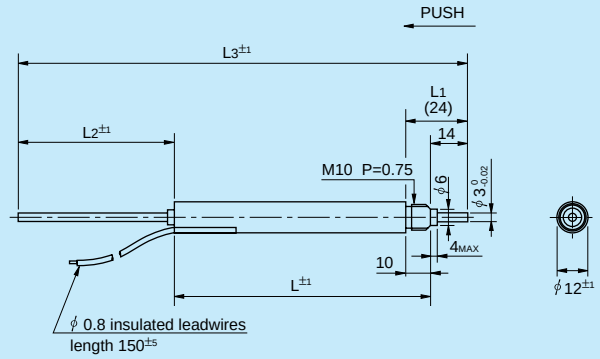
Terminal Connection Diagram



Standard Model Nos.

OF10LP30 Stroke 30mm
OF10LP50 Stroke 50mm
OF10LP100 Stroke 100mm

Standard Dimensions



Model No.	L	L1	L2	L3
OF10LP30	75	24	46	145
OF10LP50	95	24	66	185
OF10LP100	145	24	116	285

Note: 1 pc. each inner teeth washer and hex nut are attached.

General Specifications

Model No.		OF10LP30	OF10LP50	OF10LP100
Standard Resistance Range		100Ω ~ 5kΩ	100Ω ~ 10kΩ	100Ω ~ 20kΩ
Max. Practical Resistance Value		10kΩ	20kΩ	40kΩ
Total Resistance Tolerance	Standard Class	±5% (J)		
	Precision Class	±3% (H)		
Independent Linearity Tolerance	Standard Class	±1%	±0.7%	±0.5%
	Precision Class	±0.5%	±0.4%	±0.25%
Power Rating		0.5W	0.75W	1.0W
Noise		Below 100Ω E.N.R.		
Electrical Stroke		30±1mm	50±1mm	100±1mm
Mechanical Stroke (MS)		Approx. 32mm	Approx. 52mm	Approx. 102mm
Insulation Resistance		Over 100MΩ at 500V.D.C.		
Dielectric Strength		1 minute at 500V.A.C.		
Friction		Below 6N (600gf)		
Stopper Strength		Approx. 90N (9kgf)		
Max. Working Voltage		100V		
Resistance Temperature Coefficient of Wire		±20 p.p.m./℃		
Mass		Approx. 40g	Approx. 50g	Approx. 60g

Standard Resistance Values ■No. of Wire Turns ■Resistance Wire Used

Resist. Value (Ω)	100	200	500	1k	2k	5k	10k	20k
OF10LP30	220	280	380	470	590	830	※1,000	—
OF10LP50	430	390	530	660	830	1,150	1,450	※1,800
OF10LP100	710	870	830	1,050	1,300	1,800	2,300	2,900
Resist. Wire Used	Cu-Ni System		Ni-Cr System					

Note: Mark ※ shows values at special higher practical resistance.

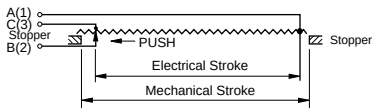
Special Specifications Available

Special machining on the shaft, Non-oil-filled type.

MODEL OF20LP (With front extended shaft and with connector)

Model OF20LP50

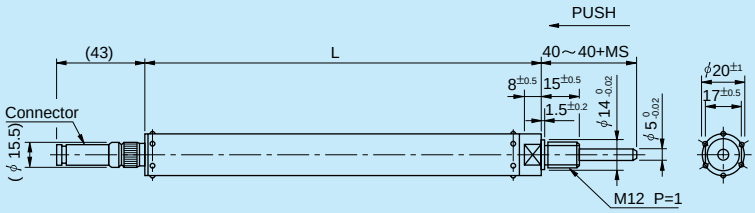
Terminal Connection Diagram



Standard Model Nos.

OF20LP50 Stroke 50mm
OF20LP100 Stroke 100mm
OF20LP200 Stroke 200mm

Standard Dimensions



Model No.	Mechanical Stroke (MS)	L
OF20LP50	Approx. 53	135±1
OF20LP100	Approx. 103	185±1
OF20LP200	Approx. 203	285±1

Specifications of Connector

Water-proof type
Number of poles: 6 poles
Electrical wire diameter to be connected: ∅6.3mm max.

Note: 1 pc. each inner teeth washer and hex nut are attached.

General Specifications

Model No.		OF20LP50	OF20LP100	OF20LP200
Standard Resistance Range		100Ω～10kΩ	100Ω～20kΩ	100Ω～50kΩ
Max. Practical Resistance Value		20kΩ	40kΩ	80kΩ
Total Resistance Tolerance	Standard Class	±5% (J)		
	Precision Class	±3% (H)		
Independent Linearity Tolerance	Standard Class	±0.7%	±0.5%	
	Precision Class	±0.4%	±0.25%	
Power Rating		0.75W	1.0W	2.0W
Noise		Below 100Ω E.N.R.		
Electrical Stroke		50±1mm	100±1mm	200±1mm
Mechanical Stroke (MS)		Approx. 53mm	Approx. 103mm	Approx. 203mm
Insulation Resistance		Over 100MΩ at 500V.D.C.		
Dielectric Strength		1 minute at 900V.A.C.		
Friction		Below 15N (1,500gf)		
Stopper Strength		Approx. 90N (9kgf)		
Max. Working Voltage		200V		
Resistance Temperature Coefficient of Wire		±20 p.p.m./℃		
Mass		Approx. 100g	Approx. 150g	Approx. 180g

Standard Resistance Values ■No. of Wire Turns ■Resistance Wire Used

Resist. Value (Ω)	100	200	500	1k	2k	5k	10k	20k	50k
OF20LP50	380	480	470	590	740	1,000	1,250	※1,600	—
OF20LP100	610	770	740	930	1,200	1,600	2,000	2,500	—
OF20LP200	970	1,200	1,650	1,500	1,850	2,500	3,200	4,000	※5,550
Resist. Wire Used	Cu-Ni System			Ni-Cr System					

Note: Mark ※shows values at special higher practical resistance.

Special Specifications Available

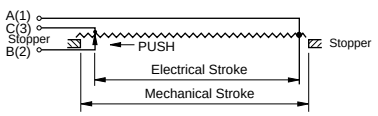
Extra taps (Available up to 1 tap), Special machining on the shaft, Non-oil-filled type, With conductive plastic resistive element.

MODEL OF40LP

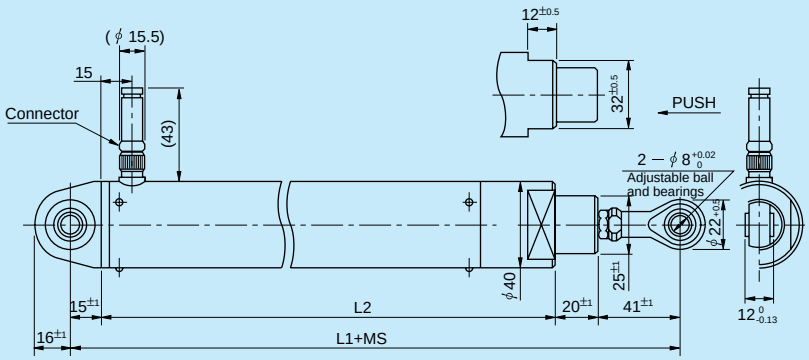
(With front extended shaft and with connector)

Model OF40LP300

Terminal Connection Diagram



Standard Dimensions



Model No.	Mechanical Stroke (MS)	L1	L2
OF40LP100	Approx. 105	328	252
OF40LP200	Approx. 205	428	352
OF40LP300	Approx. 305	528	452

Specifications of Connector

Water-proof type
Number of poles: 6 poles
Electrical wire diameter
to be connected: ∅6.3mm max.

Standard Model Nos.

OF40LP100 Stroke 100mm
OF40LP200 Stroke 200mm
OF40LP300 Stroke 300mm

General Specifications

Model No.		OF40LP100	OF40LP200	OF40LP300
Standard Resistance Range		100Ω～20kΩ	100Ω～50kΩ	200Ω～50kΩ
Max. Practical Resistance Value		40kΩ	80kΩ	100kΩ
Total Resistance Tolerance	Standard Class	±5% (J)		
	Precision Class	±3% (H)		
Independent Linearity Tolerance	Standard Class	±0.5%		±0.3%
	Precision Class	±0.25%		±0.1%
Power Rating		1.0W	2.0W	3.0W
Noise		Below 100Ω E.N.R.		
Electrical Stroke		100±1mm	200±1mm	300±1mm
Mechanical Stroke		Approx. 105mm	Approx. 205mm	Approx. 305mm
Insulation Resistance		Over 100MΩ at 500V.D.C.		
Dielectric Strength		1 minute at 900V.A.C.		
Friction		Below 20N (2kgf)		
Stopper Strength		Approx. 90N (9kgf)		
Max. Working Voltage		300V		
Resistance Temperature Coefficient of Wire		±20 p.p.m./℃		
Mass		Approx. 1,000g	Approx. 1,200g	Approx. 1,500g

Standard Resistance Values ■No. of Wire Turns ■Resistance Wire Used

Resist. Value (Ω)	100	200	500	1k	2k	5k	10k	20k	50k	100k
OF40LP100	530	670	910	800	1,000	1,400	1,700	2,200	—	—
OF40LP200	830	1,050	1,400	1,800	1,600	2,200	2,850	3,450	4,900	—
OF40LP300	—	1,400	1,900	2,400	2,200	3,000	3,800	4,750	6,450	※ 8,000
Resist. Wire Used	Cu-Ni System				Ni-Cr System					

Note: Mark ※ shows values at special higher practical resistance.

Special Specifications Available

Stroke 500mm (SOF40LP500), Extra taps (Available up to 1 tap), Special machining on the shaft, Non-oil-filled type, With conductive plastic resistive element.