

Designed for low-power applications

Features

- **Low-loss / high-strength bellows**
Copper-coated stainless steel increases current-handling capability.
- **Wide tuning range**
Capacitance from 3 pF to 2,000 pF
- **High purity alumina ceramics**
Low-loss ceramics (UWA55 type)
- **High durability screw actuator technology**
Diamond-like carbon (DLC) coating extends life and reduces friction
- **Ball screw actuators**
Meiden has adopted ball screws for variable capacitors to overcome overload conditions such as high speed/ high acceleration reverse matching, same range continuous operation, micro-motion and hunting oscillation. They provide vastly superior life expectancy, exhibiting near-zero friction for high-speed and high acceleration / deceleration functions.
The UW series is available with small ball screw profiles to meet size constraints and extend life.



Motor Specifications

Item	UW-C	UW-B (Ball Screw)
Torque	≦0.18Nm (≦18Ncm)	≦0.15Nm (≦15Ncm)
Turns	10.5(±0.2) Turns	9.5($\pm\frac{0.2}{9}$) Turns
Motor axis diameter	φ6.35mm	φ12.7mm

UW Series Product Types

SCV-□□□□□H□□UW-□ (□)

Variable Vacuum Capacitors

- | | | |
|---------------------------|-----------------------------|---------------------------------|
| ①: Peak test voltage (kV) | ②: Capacitance (x100pF) | ③: Design identification symbol |
| ④: Diameter (mm) | ⑤: Symbol (Series) | ⑥: Types of screw |
| | ⑦: Types of shaft (Options) | |
- H** Alumina Al₂O₃ 94~98%
FH Minimum non-linear region (2 turns)
HA For high frequencies Alumina Al₂O₃ 98%~ Non-linear region (4 turns)
- UW** Flat mounting surface
UWD Fixed side 4-point mounting
-C DLC coating
-B3 Ball screw
Blank Standard
(xx) See options

Type

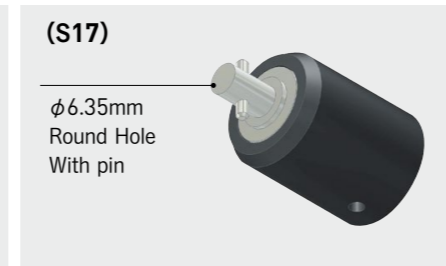
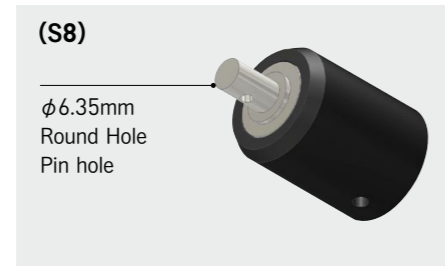
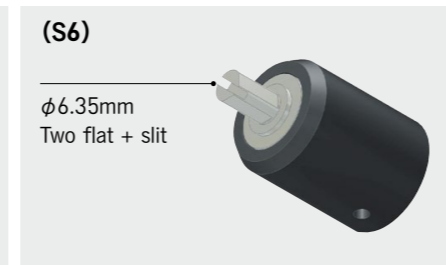
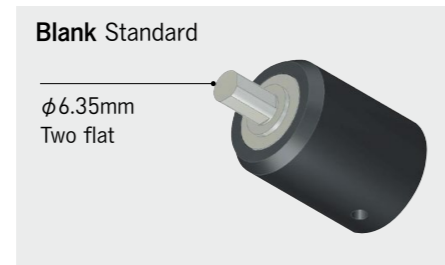
Type	Part Number	Capacitance (pF)		Voltage (kVp) ^{※1}		Current (Arms)			Mounting Dimensions (mm)			Weight (kg)	Options
		Min.	Max.	RF Working	Peak Test	13.56MHz	40MHz	60MHz	Total Length	Mounting Length	Diameter		
UW55	SCV-150.6HA55UW-C ^{※4}	3	60	9	15	32	71	64	133.5	90.6	φ55	~0.7	-B3
	SCV-150.75HA55UW-C ^{※4}	5	75	9	15	40	71	64					
	SCV-200.5H55UW-C ^{※4}	6	50	12	20	27	71	64					
	SCV-151H55UW-C ^{※4}	10	100	9	15	54	71	64					
	SCV-151.5FH55UW-C ^{※4}	7	150	9	15	81	71	64					
	SCV-152.5H55UW-C ^{※4}	25	250	9	15	94	71	64					
	SCV-83.5FH55UW-C ^{※4}	7	350	4.8	8	94	71	64					
	SCV-55FH55UW-C ^{※4}	7	500	3	5	90	71	64					
	SCV-85H55UW-C ^{※4}	35	500	4.8	8	94	71	64					
	SCV-310H55UW-C ^{※4}	35	1000	1.8	3	94	71	64					
UW65	SCV-510H55UW-C ^{※4}	35	1000	3	5	94	71	64	133.5	90.6	φ65	~0.9	-B3
	SCV-415H55UW-C ^{※4}	150	1500	2.4	4	94	71	64					
	SCV-125H65UW-C ^{※4}	50	500	7.2	12	94	71	64					
	SCV-155H65UW-C ^{※4}	50	500	9	15	94	71	64					
	SCV-810H65UW-C ^{※4}	100	1000	4.8	8	94	71	64					
	SCV-1010H65UW-C ^{※4}	100	1000	6	10	94	71	64					
UW82	SCV-415H65UW-C ^{※4}	150	1500	2.4	4	94	71	64	133.5	90.6	φ82	~1.3	-B3
	SCV-515H65UW-C ^{※4}	150	1500	3	5	94	71	64					
	SCV-320H65UW-C ^{※4}	200	2000	1.8	3	94	71	64					
	SCV-158FH82UW-C ^{※4}	50	800	9	15	94	71	64					
	SCV-1014H82UW-C ^{※4}	140	1400	6	10	94	71	64					
	SCV-815H82UW-C ^{※4}	150	1500	4.8	8	94	71	64					

※1: The unit of "Voltage (kVp)" is "0-peak" not "peak-peak".
 ※4: Water cooling adds 30W thermal capacity.

⑥: Types of screw



⑦: Types of shaft (Options)



Designed for medium/ high-power applications

Features

- **Double bellows with special copper alloy**
Designed for high current applications, the dual bellows system provides the highest current capacity and extended durability while exhibiting low actuation torque.
- **Reinforced actuator screw system**
Coated with long-life diamond-like carbon (DLC)



Optional

- **Ball screw actuators**

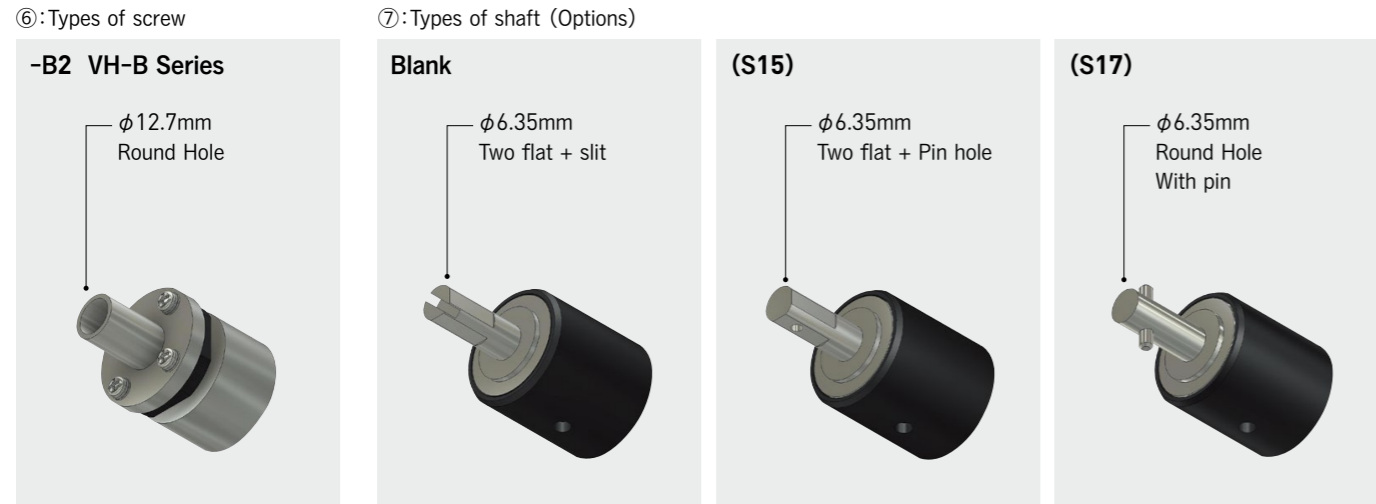
VP Series Product Types

SCV-□□□□□P□□L-□ (□)

Vacuum Variable Capacitors

- ①: Peak test voltage (kV)
- ②: Capacitance (x100pF)
- ③: Symbol (Series)
P Normal current
PA Large current
H VH-B Series
- ④: Diameter (mm)
- ⑤: Design identification symbol
Blank Concentric electrodes
L Mounting length 95mm (115 mm for normal specifications)
W Swirl electrode
DW Minimum non-linear region (2.8 turns)
FW Minimum non-linear region (5.5 turns)

- ⑥: Types of screw
Blank Standard (DLC coating)
-B2 Ball Screw (VH-B Series)
-B4 Ball Screw (VP150, VP200 types)
- ⑦: Types of shaft (Options)
Blank Two flat + slit
(xx) See options



Motor Specifications

Item	Other than VP82L,VP94L	VP82L·VP94L	Other than VP82L-B,VP94L-B (Ball Screw)	VP82L-B,VP94L-B (Ball Screw)
Torque	≤ 0.18Nm (≤ 18Ncm)	≤ 0.18Nm (≤ 18Ncm)	≤ 0.12Nm (≤ 12Ncm)	≤ 0.12Nm (≤ 12Ncm)
Turns	14.3(±0.2) Turns	10.8(±0.2) Turns	14(±0.5) Turns	10.5(±0.5) Turns
Motor axis diameter	φ 6.35mm	φ 6.35mm	φ 12.7mm	φ 12.7mm

Type

Type	Part Number	Capacitance (pF)		Voltage (kVp) ※1		Current (Arms)			Mounting Dimensions (mm)			Weight (kg)	Options
		Min.	Max	RF Working	Peak Test	13.56MHz	40MHz	60MHz	Total Length	Mounting Length	Diameter		
VP65	SCV-151P65 ※2	10	100	9	15	54	99	89	154	115	φ 65	~1.3	-B2 AWF-6 AWM-6
	SCV-201P65 ※2	10	100	12	20	72	99	89					
	SCV-152P65C ※2	5.5	200	9	15	108	99	89					
	SCV-202P65 ※2	15	200	12	20	130	99	89					
	SCV-152.5P65 ※2	15	250	9	15	130	99	89					
	SCV-202.5P65 ※2	15	250	12	20	130	99	89					
	SCV-7.55P65FW ※2	8	500	4.5	7.5	130	99	89					
	SCV-125P65DW ※2	10	500	7.2	12	130	99	89					
	SCV-310P65FW ※2	6	1000	1.8	3	108	99	89					
	SCV-410P65W ※2	20	1000	2.4	4	130	98	89					
	SCV-510P65W ※2	20	1000	3	5	130	99	89					
	SCV-810P65W ※2	20	1000	4.8	8	130	99	89					
VP70	SCV-315P65DW ※2	10	1500	1.8	3	130	99	89	154	115	φ 70	~1.5	-B2 AWF-6 AWM-6
	SCV-155P70W ※2	15	500	9	15	140	106	96					
VP70L	SCV-128P70W ※2	20	800	7.2	12	140	106	96	154	115	φ 70	~1.5	-B2 AWF-6 AWM-6
	SCV-515P70W ※2	35	1500	3	5	140	106	96					
VP82	SCV-49.5P70LW ※2	12	950	2.4	4	130	99	89	125	95	φ 70	~1.2	-B2 AWF-6 AWM-6
	SCV-85P70LW ※2	10	500	4.8	8	130	99	89					
VPA82	SCV-252P82 ※2	20	200	15	25	140	106	96	154	115	φ 82	~1.9	-B2 AWF-6 AWM-6
	SCV-155P82W ※2	20	500	9	15	140	106	96					
	SCV-205P82W ※2	20	500	12	20	140	106	96					
	SCV-1010P82W ※2	25	1000	6	10	140	106	96					
	SCV-515P82W ※2	25	1500	3	5	140	106	96					
VP82L	SCV-520P82W ※2	25	2000	3	5	140	106	96	152	112	φ 82	1.8	-B2 AWF-6 AWM-6
	SCV-302PA82 ※2	22	200	18	30	170	129	117					
	SCV-200.5P82L ※2	12	50	12	20	36	106	96					
	SCV-250.8P82L ※2	11	80	15	25	72	106	96					
	SCV-201P82L ※2	12	100	12	20	72	106	96					
	SCV-251P82L ※2	12	100	15	25	90	106	96					
	SCV-201.5P82L ※2	12	150	12	20	108	106	96					
	SCV-202P82L ※2	12	200	12	20	140	106	96					
	SCV-202.2P82L ※2	12	220	12	20	140	106	96					
	SCV-103.5P82LW ※2	15	350	6	10	126	106	96					
	SCV-84P82LW ※2	15	400	4.8	8	115	106	96					
	VP94	SCV-202.5P94 ※2	25	250	12	20	150	114					
SCV-205P94 ※2		25	500	12	20	150	114	103					
SCV-158P94DW ※2		50	800	9	15	150	114	103					
SCV-815P94 ※2		30	1500	4.8	8	150	114	103					
SCV-520P94W ※2		30	2000	3	5	150	114	103					
SCV-523P94W ※2		45	2300	3	5	150	114	103					
SCV-251P94L ※2		14	100	15	25	90	125	113					
SCV-271P94L ※2		14	100	16.2	27	97	125	113					
VP94L	SCV-202.2P94L ※2	14	220	12	20	159	125	113	125	95	φ 94	~1.8	-B2 AWF-6 AWM-6
	SCV-153.5P94L ※2	15	350	9	15	165	125	113					

※1: The unit of "Voltage (kVp)" is "0-peak" not "peak-peak".
 ※2: Max current values assume base sink/convection cooling.

Type

Type	Part Number	Capacitance (pF)		Voltage (kVp) ^{※1}		Current (Arms)			Mounting Dimensions (mm)			Weight (kg)	Options (Types of screw and water-cooling flanges)
		Min.	Max	RF Working	Peak Test	13.56MHz	40MHz	60MHz	Total Length	Mounting Length	Diameter		
VP110	SCV-301P110 ^{※2}	20	100	18	30	108	129	117	154	115	φ110	~2.8	-B2 AWM-4
	SCV-201.5P110C ^{※2}	11	150	12	20	108	129	117					
	SCV-251.5P110C ^{※2}	11	150	15	25	135	129	117					
	SCV-302P110 ^{※2}	25	200	18	30	170	129	117					
	SCV-202.5P110C ^{※2}	13	245	12	20	170	129	117					
	SCV-252.5P110C ^{※2}	13	245	15	25	170	129	117					
	SCV-253.5P110 ^{※2}	35	350	15	25	170	129	117					
	SCV-205P110 ^{※2}	40	500	12	20	170	129	117					
	SCV-255P110 ^{※2}	40	500	15	25	170	129	117					
	SCV-158P110FW ^{※2}	15	800	9	15	170	129	117					
	SCV-209P110W ^{※2}	50	900	12	20	170	129	117					
	SCV-1510P110W ^{※2}	40	1000	9	15	170	129	117					
	SCV-2210P110W ^{※2}	40	1000	13.2	22	170	129	117					
	SCV-1015P110W ^{※2}	40	1500	6	10	170	129	117					
	SCV-520P110 ^{※2}	40	2000	3	5	170	129	117					
	SCV-820P110W ^{※2}	40	2000	4.8	8	170	129	117					
SCV-325P110FW ^{※2}	15	2500	1.8	3	170	129	117						
SCV-340P110W ^{※2}	45	4000	1.8	3	170	129	117						
SCV-540P110W ^{※2}	45	4000	3	5	170	129	117						
VP132	SCV-2015P132W ^{※2}	60	1500	12	20	170	129	117	154	115	φ132	~3.8	-B2
	SCV-1022P132W ^{※2}	80	2200	6	10	170	129	117					

※1: The unit of "Voltage (kVp)" is "0-peak" not "peak-peak".
 ※2: Max current values assume base sink/convection cooling.

Water-cooling flanges

Types	Bottom Side	Top Side (Actuator Side)
VP65 VP70	<p>AWF-6</p> <p>(Water flow rate : 1.0 l/min., Permissible hydraulic pressure : 1.0 MPa) Unit : mm</p>	<p>AWM-6</p> <p>(Water flow rate : 1.0 l/min., Permissible hydraulic pressure : 1.0 MPa) Unit : mm</p>
VP82 VP82L VP94L	<p>AWM-4</p> <p>(Water flow rate : 1.0 l/min., Permissible hydraulic pressure : 1.0 MPa) Unit : mm</p>	<p>AWM-5</p> <p>(Water flow rate : 1.0 l/min., Permissible hydraulic pressure : 1.0 MPa) Unit : mm</p>
VP94 VP110 VP132	<p>AWM-4 (Top and bottom sides in common)</p> <p>(Water flow rate : 1.0 l/min., Permissible hydraulic pressure : 1.0 MPa) Unit : mm</p>	

Designed for high withstand voltage and high current

Features

Double bellows with special copper alloy

Designed for high current applications, the dual bellows system provides the highest current capacity and extended durability while exhibiting low actuation torque.

Reinforced actuator screw system

Coated with long-life diamond-like carbon (DLC)



VPC115

Motor Specifications

Item	SCV-401PB115H-B3	SCVW-352.5PC115H
Torque	≤ 0.12Nm (≤ 12Ncm)	≤ 0.18Nm (≤ 18Ncm)
Turns	7.8 (±0.4) Turns	10.3 (±0.2) Turns
Motor axis diameter	φ 12.7mm	φ 6.35mm

Type

Type	Part Number	Capacitance (pF)		Voltage (kVp) ^{※1}		Current (Arms)			Mounting Dimensions (mm)			Weight (kg)	Options
		Min.	Max	RF Working voltage	Peak Test voltage	13.56MHz	40MHz	60MHz	Total Length	Mounting Length	Diameter		
VPB115	SCV-401PB115H-B3 ^{※4}	14	90	24	40	130	156	141	175	135	φ 115	3.5	—
VPC115	SCVW-352.5PC115H ^{※6}	40	250	21	35	250	190	172	154	125	φ 115	3.9	-B3

※1: The unit of "Voltage (kVp)" is "0-peak" not "peak-peak".

※4: Water cooling adds 30W thermal capacity.

※6: The maximum allowable current value is for a 100W thermal cooling environment. (The body is standard and water-cooling.)

Designed for high-power applications

Features

Internal water-cooling bellows/ actuator structure, large aperture/ high-current copper alloy bellows

Low losses

Reinforced actuator screw system

Coated with long-life diamond-like carbon (DLC)



VPA150



VP150

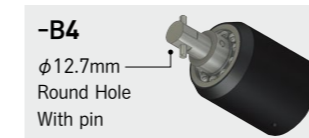


VP200

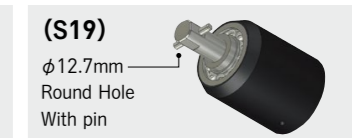
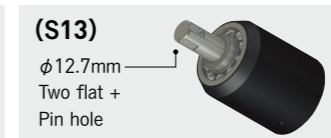
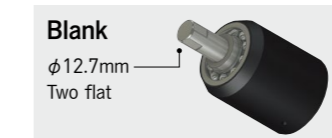
Motor Specifications

Item	VP150, VPA150, VP200
Torque	≤ 0.70Nm (≤ 70Ncm)
Turns	16.6 (±0.2) Turns
Motor axis diameter	φ 12.7mm

Types of screw



Types of shaft (Options)



Type

Type	Part Number	Capacitance (pF)		Voltage (kVp) ^{※1}		Current (Arms)			Mounting Dimensions (mm)			Weight (kg)	Options
		Min.	Max	RF Working	Peak Test	13.56MHz	40MHz	60MHz	Total Length	Mounting Length	Diameter		
VP150	SCV-403.5P150 ^{※6}	20	350	24	40	300	228	206	265	165	φ 150	~7.7	-B4
	SCV-405P150 ^{※6}	40	500	24	40	300	228	206					
	SCV-2010P150W ^{※6}	50	1000	12	20	300	228	206					
VPA150	SCV-1525P150W ^{※6}	40	2500	9	15	300	228	206	265	165	φ 150	7.7	-B4
	SCV-1525PA150W ^{※6}	40	2500	9	15	400	305	275					
VP200	SCV-555P200 ^{※6}	40	500	33	55	400	305	275	265	165	φ 200	13.1	-B4
	SCV-2020P200 ^{※6}	1000	2000	12	20	400	305	275					

※1: The unit of "Voltage (kVp)" is "0-peak" not "peak-peak".

※6: The maximum allowable current value is for a 700W thermal cooling environment. (The body is standard and water-cooling.)