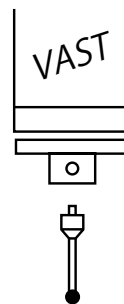


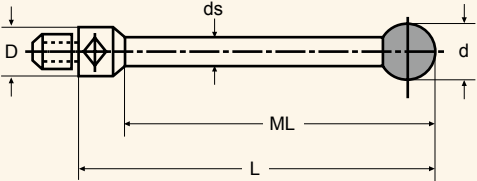
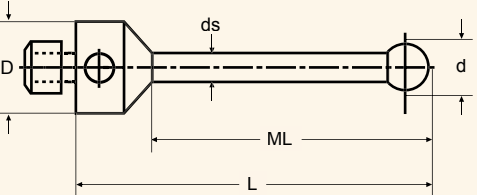
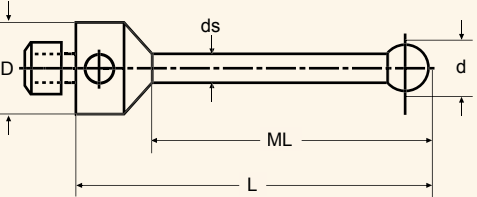
Applicable Probe Heads

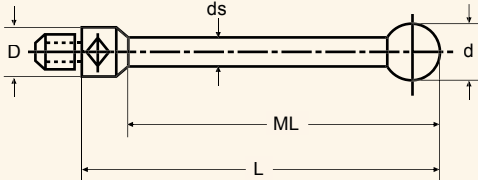
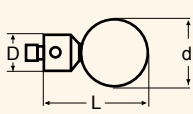
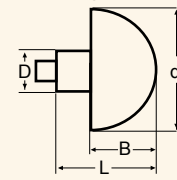
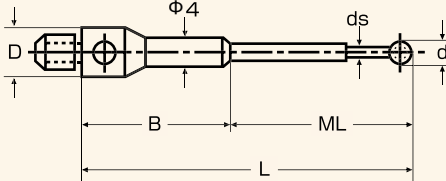
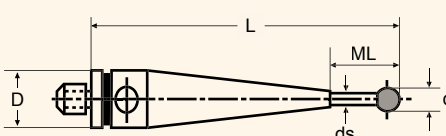
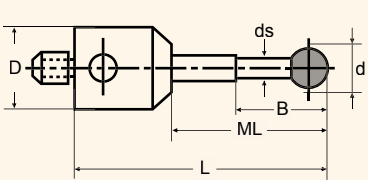
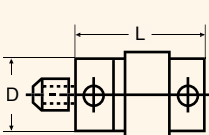
Probe Head Specifications

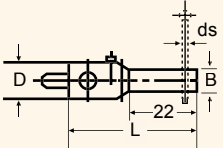
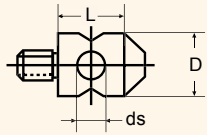
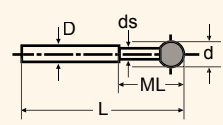
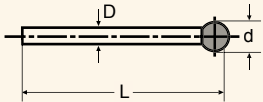
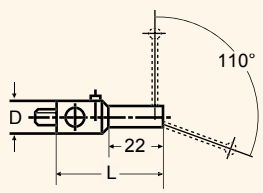
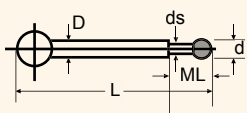
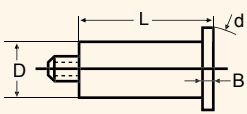
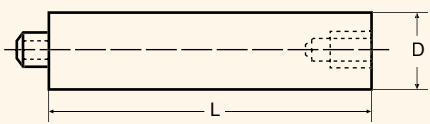
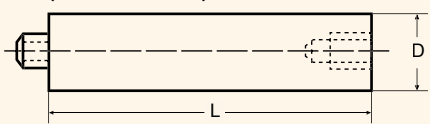
Probe Heads	VAST XT VAST XT gold
Stylus + extension maximum length (L)	500 mm
Stylus minimum tip diameter (d)	Φ 0.5 mm
Stylus + extension maximum weight	500 g

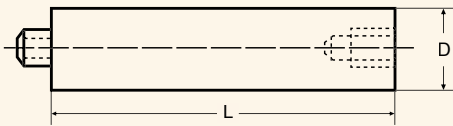
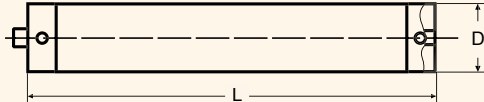
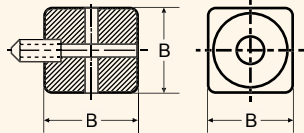


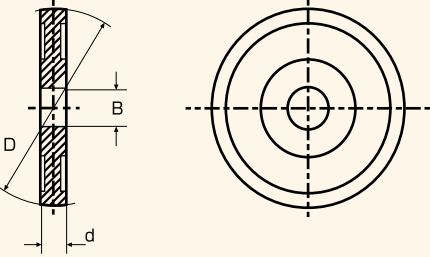
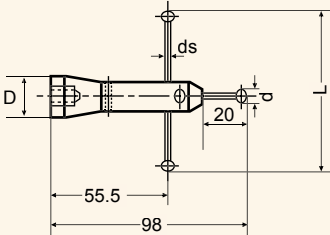
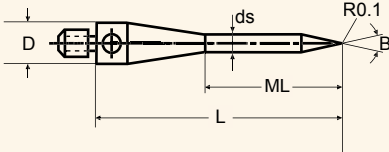
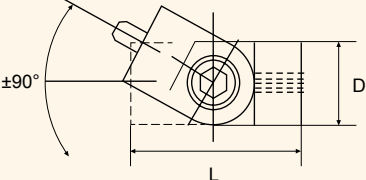
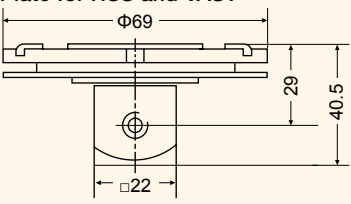
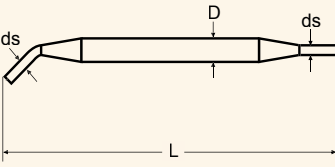
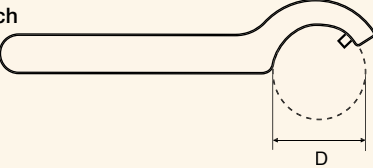
Stylus/Extension

M5	Outline Shape	Model	Dimensions (mm)						Weight (g)	
			d	L	D	ML	ds	B		
Ball Stylus (Carbide Shaft) 			602030-9010-000	3	25	11	15	2		4
			600342-8020-000	3	33.5	11	23.5	2		4
			602030-9011-000	3	50	11	40	2		5
			600342-8021-000	3	58	11	48	2		6
			600342-8025-000	4	33.5	11	23.5	2		4
			602030-9012-000	4	64	11	54	2		6
			602030-9013-000	5	50	11	40	3.5		9
			602030-9015-000	5	75	11	65	3.5		13
			600342-8026-000	6	54	11	44	3.5		10
			600342-8027-000	7	55	11	45	3.5		10
			600342-8023-000	8	63.5	11	50.5	6		25
			602030-9016-000	8	75	11	62	6		30
			602030-9017-000	8	100	11	87	6		41
			600342-8024-000	8	114.5	11	101.5	6		48
			600342-8124-000	8	114.5	19	92.5	6		59
			600342-8128-000	9	64.5	19	42.5	6		38
			600342-8029-000	10	65.5	11	52.5	6		27
			602030-9018-000	10	118	11	105	6		47
Ball Stylus (Thermo Fit) 			626105-0300-025	3	25	11	15	2		4
			626105-0300-033	3	33	11	23	2		4
			626105-0300-050	3	50	11	40	2		4
			626105-0300-058	3	58	11	48	2		4
			626105-0400-033	4	33	11	23	2		4
			626105-0400-064	4	64	11	54	2		4
			626105-0510-050	5	50	11	40	3.5		4
			626105-0510-075	5	75	11	65	3.5		5
			626105-0510-100	5	100	11	90	3.5		5
			626105-0610-054	6	54	11	44	3.5		5
			626105-0710-055	7	55	11	45	3.5		5
			626105-0820-063	8	63	11	50	6		7
			626105-0820-075	8	75	11	62	6		8
			626105-0820-100	8	100	11	87	6		9
			626105-0820-114	8	114	11	101	6		10
			626105-0820-150	8	150	11	137	6		12
			626105-0820-200	8	200	11	187	6		14
			626105-1020-065	10	65	11	52	6		8
			626105-1020-118	10	118	11	105	6		11
			626105-1020-150	10	150	11	137	6		13
			626105-1020-200	10	200	11	187	6		15
Ball Stylus (ThermoFit/Silicon Nitride Ball) 			626105-0301-033	3	33	11	23	2		4
			626105-0301-058	3	58	11	48	2		4
			626105-0511-050	5	50	11	40	3.5		4
			626105-0511-075	5	75	11	65	3.5		5
			626105-0511-100	5	100	11	90	3.5		5
			626105-0821-063	8	63	11	50	6		7
			626105-0821-100	8	100	11	87	6		9
			626105-0821-114	8	114	11	101	6		10
			626105-0821-150	8	150	11	137	6		12
			626105-0821-200	8	200	11	187	6		14
			626105-1021-118	10	118	11	105	6		11
			626105-1021-150	10	150	11	137	6		12
			626105-1021-200	10	200	11	187	6		15

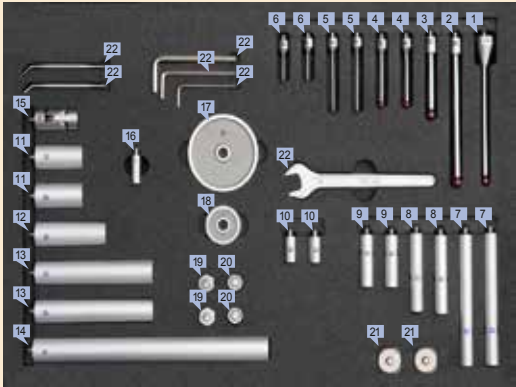
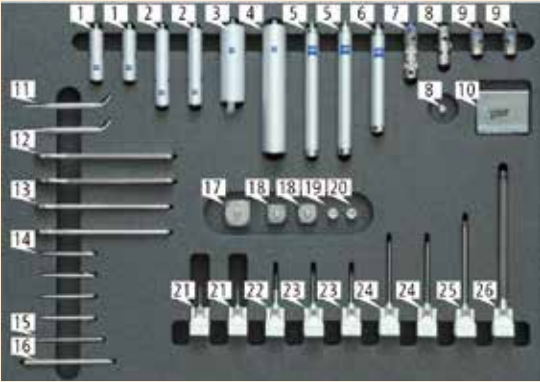
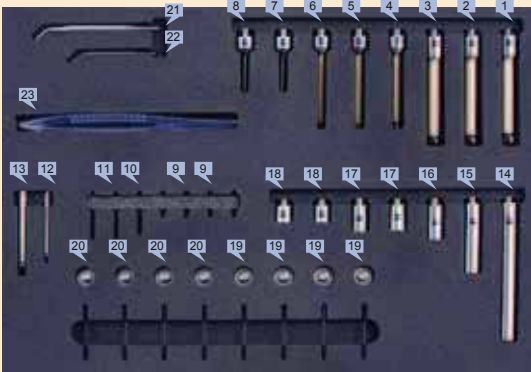
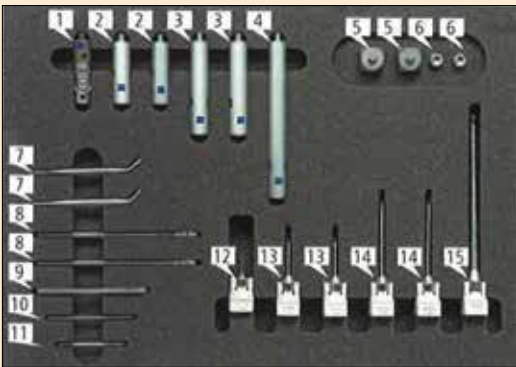
M5	Outline Shape	Model	Dimensions (mm)						Weight (g)		
			d	L	D	ML	ds	B			
Ball Stylus (Ceramics) 		600342-8013-000	5	53	11	43	3.5		5		
		600342-8016-000	6	54	11	44	3.5		5		
		600342-8014-000	8	63.5	11	50.5	6		8		
		600342-8015-000	8	114.5	11	101.5	6		12		
Ball Stylus (Ceramics) 		000000-1294-772	15	28	11				20		
		626115-1600-028	16	28	11				20		
		626115-1800-028	18	28	11				22		
		626115-2000-033	20	33	11				29		
		626115-3000-043	30	43	11				67		
Ball Stylus (Ceramics) 		626105-1696-020	16	20	11			10	10.4		
		626105-2296-025	22	23	11			14.5	13		
		626105-3096-025	30	25	11			18	17		
Ball Stylus 		602030-8060-000	0.8	32	11	12	0.6	20	4		
		602030-8061-000	1	32	11	12	0.8	20	4		
		602030-8062-000	1.35	32	11	12	1	20	4		
		602030-8063-000	1.35	44	11	19	1	25	4		
		602030-8064-000	1.5	32	11	12	1	20	4		
		602030-8065-000	1.5	44	11	19	1	25	4		
		602030-8066-000	2	32	11	12	1.5	20	7.2		
		602030-8067-000	2	44	11	19	1.5	25	5		
		602030-8068-000	2	58	11	33	1.5	25	5		
		602030-8069-000	2.5	32	11	12	1.5	20	4		
		602030-8070-000	2.5	44	11	19	1.5	25	5		
		602030-8071-000	2.5	58	11	33	1.5	25	5		
		Ball Stylus 		602030-9019-000	1	55	11	4	0.8		12
				602030-9020-000	1.5	55	11	5	1		11
602030-9021-000	2			55	11	5	1.5		11		
602030-9023-000	3.5			55	11	10	2.5		11		
Small Diameter Ball Stylus 		626115-0030-022	0.3	21.8	11	12.8	0.2	2.3	6		
		626115-0050-022	0.5	22	11	13	0.3	2.5	6		
		626115-0060-022	0.6	22.1	11	13.1	0.4	4.6	5.4		
		626115-0080-022	0.8	22.3	11	13.3	0.6	4.8	6		
		626115-0100-022	1	22.5	11	13.5	0.8	5	6		
360° Revolute Joint 		626105-6280-090		30	20				40		
		626105-6280-030		29	11				13		

M5	Outline Shape	Model	Dimensions (mm)						Weight (g)
			d	L	D	ML	ds	B	
Stylus Holder (90°)		600341-8160-000		45	11		1.5	6	16
5-direction Stylus Holder		600341-8367-000		10	11		1		3
		600341-8368-000		10	11		1.5		3
Ultra-small Diameter Ball Stylus (for HSS)		600341-8454-000	1	16	1	5	0.8		1
		600341-8450-000	0.3	15.3	1	2.3	0.2		1
		600341-8451-000	0.5	15.5	1	2.5	0.3		1
		600341-8452-000	0.6	15.6	1	4.6	0.4		1
		600341-8453-000	0.8	15.8	1	4.8	0.6		1
Small Diameter Ball Stylus		600341-8501-000	1.5	26.5	1				1
		600341-8502-000	2	27	1.5				1
		600341-8503-000	2.5	27.5	1.5				1
		600341-8500-000	1.35	26.35	1				1
Swivel Stylus Holder		600341-8180-000		40	11				15
Stylus for Swivel Holder		600341-8183-000	1	17.5	1	5	0.8		1
		600341-8185-000	2	28.5	1.5				1
Disk Stylus		600341-8090-000	10	21.5	7			1.5	3
		600341-8095-000	15	21.5	10			1.5	6
		000000-1165-630	20	60	7			1	8
		000000-1165-629	15	40	7			1	5
Extension (Aluminum)		600341-8420-000		200	20				85
		600341-8421-000		150	20				68
		600341-8422-000		100	20				50
		600341-8423-000		80	20				43
		600341-8424-000		60	20				37
		600341-8425-000		40	20				32
		600341-8265-000		120	11				30
		600341-8264-000		100	11				24
		600341-8263-000		80	11				19
		600341-8262-000		60	11				14
		600341-8261-000		40	11				10
Extension (Stainless Steel)		600341-0260-000		100	11				73
		600341-0258-000		80	11				58
		600341-0256-000		60	11				42
		600341-0254-000		40	11				28
		600341-0252-000		20	11				13
		600341-0251-000		15	11				9
		600341-0250-000		10	11				6

M5	Outline Shape	Model	Dimensions (mm)					Weight (g)			
			d	L	D	ML	ds		B		
Extension (Titanium)		602030-9044-000		10	11				4		
		602030-9045-000		15	11				6		
		602030-9046-000		20	11				7		
		602030-9047-000		25	11				9		
		602030-9048-000		25	18				26		
		602030-9049-000		40	11				14		
		602030-9050-000		40	18				43		
		602030-9051-000		50	11				15		
		602030-9052-000		50	18				35		
		602030-9053-000		60	11				14		
		602030-9054-000		60	18				38		
		602030-9055-000		75	11				19		
		602030-9056-000		75	18				42		
		602030-9057-000		80	11				19		
		602030-9058-000		80	18				41		
		602030-9059-000		90	11				20		
		602030-9060-000		90	18				47		
		602030-9061-000		100	11				22		
		602030-9062-000		100	18				50		
		602030-9063-000		120	11				30		
		602030-9064-000		120	18				56		
		602030-9065-000		150	11				29		
		602030-9066-000		150	18				68		
Extension (Thermo Fit)		626107-1040-100		40	11				9		
		626107-1050-100		50	11				10		
		626107-1060-100		60	11				11		
		626107-1070-100		70	11				11		
		626107-1075-100		75	11				12		
		626107-1080-100		80	11				12		
		626107-1090-100		90	11				13		
		626107-1100-100		100	11				14		
		626107-1120-100		120	11				15		
		626107-1150-100		150	11				17		
		626107-1180-100		180	11				19		
		626107-1200-100		200	11				21		
		626107-1220-100		220	11				22		
		626107-1250-100		250	11				24		
		626107-1300-100		300	11				27		
		626107-1400-100		400	11				34		
		626107-2040-100		40	20				26		
		626107-2050-100		50	20				28		
		626107-2060-100		60	20				29		
		626107-2080-100		80	20				32		
		626107-2100-100		100	20				34		
		626107-2120-100		120	20				37		
		626107-2150-100		150	20				41		
		626107-2180-100		180	20				45		
		626107-2200-100		200	20				48		
		626107-2250-100		250	20				55		
		626107-2300-100		300	20				62		
		626107-2400-100		400	20				75		
		626107-2500-100		500	20				89		
		626107-2600-100		600	20				103		
		Cube (Hexahedron) Adaptor		(Titanium)	600341-8361-000					15	13
				(Titanium)	600341-8002-000					20	32
				(Aluminum)	602030-8363-000					15	7.5
(Aluminum)	602030-8362-000							20	20		

M5	Outline Shape	Model	Dimensions (mm)						Weight (g)
			d	L	D	ML	ds	B	
Disk Stylus 		602030-0003-000	4		10			M5	2
		602030-0004-000	4		15			M5	5
		602030-0005-000	4		20			M5	9
		602030-0006-000	4		30			M5	21
		602030-0007-000	5		40			M5	42
		602030-0008-000	5		50			M5	64
		602030-0009-000	5		60			M5	89
		602030-0010-000	4		15			8	4
		602030-0011-000	4		20			8	8
		600341-0200-000	2		20			8	4
		600341-0203-000	4		30			8	10
		600341-0204-000	4		40			8	21
		600341-0205-000	5		50			8	36
		600341-0206-000	6		60			8	59
Star Stylus 		600331-8093-000	5	80	19		3.5		70
Tip Stylus 		600342-8051-000		61	11	39	3.5	30□	12
Indirect Joint (Titanium) 		600342-9002-000		30	11				11
		626105-6280-070		36	20				43
Replacement Plate for HSS and VAST 		600677-9611-000 (2 Plates)							158
Pin Wrench 		602030-0027-000		49	2.5		1.7		
		602030-0222-000		70	5		2.9		
Hook Wrench 		626109-0012-000			11				
		626109-0013-000			20				

M5 Stylus Kit

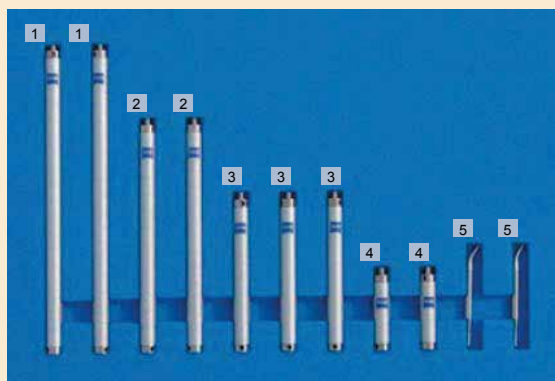
Stylus kit for large components		Model: 626115-9031		Item Name	Model	Qty	Total length (mm)	Φ (mm)	Item Name	Model	Qty	Total length (mm)	Φ (mm)
		Stylus	1	600342-8124	1	114.5	8	Extension	12	600341-8424	1	60	20
			2	600342-8024	1	114.5	8		13	600341-8422	2	100	20
			3	600342-8023	1	63.5	8		14	600341-8420	1	200	20
			4	600342-8022	2	53	5	Indirect joint	15	600342-9003	1		
			5	600342-8021	2	58	3		16	600341-8090	1	21.5	10
			6	600342-8020	2	33.5	3	Disk and others	17	600341-0206	1		60
		Extension	7	600341-8264	2	100	11		18	600341-0203	1		30
			8	600341-8262	2	60	11		19	600341-0210	2		
			9	600341-8261	2	40	11		20	600341-0212	2		
			10	600341-0252	2	20	11	Cube	21	600341-8002	2		20
			11	600341-8425	2	40	20		22	600341-8595	1		
Stylus kit for small components		Model: 626115-9110		Item Name	Model	Qty	Total length (mm)	Φ (mm)	Item Name	Model	Qty	Total length (mm)	Φ (mm)
		Extension	1	600341-8261-000	2	40	11	Tool	14	626109-0035-000	4		
			2	600341-8262-000	2	60	11		15	602030-0021-000	1		
			3	600341-8424-000	1	60	20		16	000000-0015-248	1		
			4	600341-8422-000	1	100	20	Cube	17	600341-8002-000	1		
			5	626107-1100-100	2	100	11		18	600341-8361-000	2		
			6	626107-1080-100	1	80	11	screw for cube	19	626109-0016-000	1		
		rotary-knuckle-joint	7	626105-6280-040	1	40	11		20	626109-0015-000	1		
		knuckle joint,	8	600342-9002-000	1	30	11	Stylus	21	626115-0050-022	2	22	0.5
		rotary joint	9	626105-6280-020	2	20	11		22	602030-8061-000	1	32	1
		Tool	10	626119-0001-019	1				23	600342-8020-000	2	33.5	3
			11	602030-0222-000	2				24	600342-8021-000	2	58	3
			12	626109-0013-000	2				25	602030-9015-000	1	75	5
			13	626109-0012-000	2				26	626105-0820-114	1	114	8
Stylus kit for gear measurement		Model: 626115-9040-000		Item Name	Model	Qty	Total length (mm)	Φ (mm)	Item Name	Model	Qty	Total length (mm)	Φ (mm)
		Stylus	1	600342-8019	1	65.5	10	Stylus	13	600341-8511	1	45	5
			2	600342-8018	1	63.5	9		14	600341-0258	1	80	11
			3	600342-8014	1	63.5	8	Extension	15	600341-0254	1	40	11
			4	600342-8017	1	55.5	7		16	600341-0252	1	20	11
			5	600342-8016	1	54	6		17	600341-0251	2	15	11
			6	600342-8013	1	53	5		18	600341-0250	2	10	11
			7	600342-8025	1	27	4	Holder	19	600341-8368	4		1.5
			8	600342-8020	1	33.5	3		20	600341-8367	4		1.0
			9	600341-8454	2	16	1	Tool	21	602030-0222	1		2.9
			10	600341-8501	1	26.5	1.5		22	602030-0027	1		1.7
			11	600341-8503	1	27.5	2.5		23	tweezers	1		
			12	600341-8510	1	60	20						
Stylus kit for small components		Model: 626115-9100-000		Item Name	Model	Qty	Total length (mm)	Φ (mm)	Item Name	Model	Qty	Total length (mm)	Φ (mm)
		rotary-knuckle-joint	1	626105-6280-040	1	40	11	Tool	11	626109-0035-000	1		
		Extension	2	600341-8261-000	2	40	11	Stylus	12	626115-0050-022	1	22	0.5
			3	600341-8262-000	2	60	11		13	600342-8020-000	2	33.5	3
			4	600341-8264-000	1	100	11		14	600342-8021-000	2	58	3
		Cube	5	600341-8361-000	2	15			15	600342-8024-000	1	114.5	8
		screw for cube	6	626109-0015-000	2								
		Tool	7	602030-0222-000	2	70							
			8	626109-0012-000	2								
			9	000000-0015-248	1								
			10	602030-0021-000	1								

M5

Stylus Extension Kit

Thermo Fit Extension kit for Φ 11

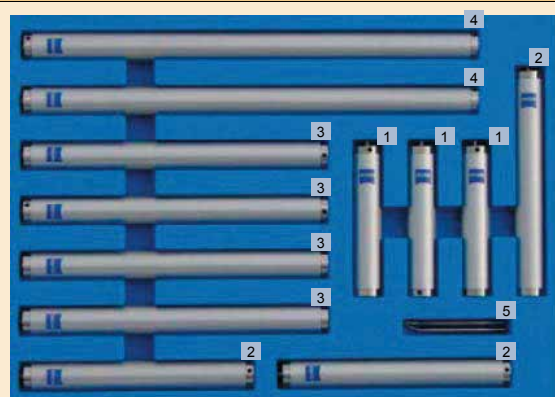
Model: 626107-9013-100



Item Name	Model	Qty	Total length (mm)	Φ (mm)
Extension	1 626107-1200-100	2	200	11
	2 626107-1150-100	2	150	11
	3 626107-1100-100	3	100	11
	4 626107-1050-100	2	50	11
	5 000000-0015-328	2		2.9

Thermo Fit Extension kit for Φ 20

Model: 626107-9014-100

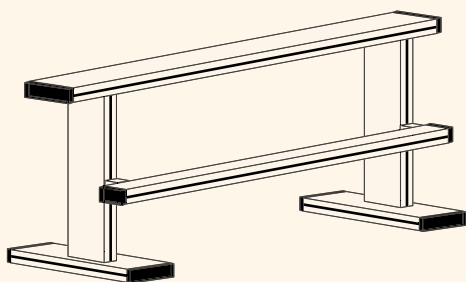


Item Name	Model	Qty	Total length (mm)	Φ (mm)
Extension	1 626107-2100-100	3	100	20
	2 626107-2150-100	3	150	20
	3 626107-2200-100	4	300	20
Extension	4 626107-2300-100	2	300	20
Tool	5 000000-0015-328	2		2.9

Probe Replacement Magazine

M5	Item Name	Model	Dimensions (mm)		Machine
			W	H	
	MSR B800/H450	626100-9302-010	800	450	FUSION NEX X = 650/850
	MSR B1000/H550	626100-9312-000	1000	550	FUSION NEX X = 1000
	MSR B1250/H800	626100-9332-000	1250	800	FUSION NEX X = 1200

MSR



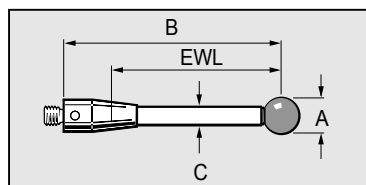
Probe Socket

Outline Shape	Model
Probe Socket VAST 	600660-8365-000

Stylus for Electronic Probe TP2/TP20/TP200

A dedicated tool (S20) is required for detachment and attachment of carbon shafts. Stylus sets and extension sets are also available. (See next page.)

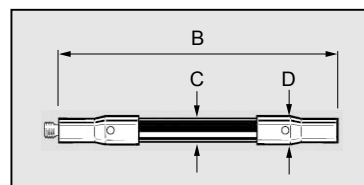
Outline Shape	Model	Name	Drawing number	Dimensions (mm)				Weight (g)	
				A	B	C	EWL		
Ruby Ball Stylus (Stainless Steel Shaft)									
	Total length10 mm	A-5000-7806	PS9R	64032	1.0	10.0	0.7	4.5	0.3
	A-5000-7802	PS24R			1.5	10.0	0.7	4.5	0.3
	A-5000-7807	PS8R	64033		2.0	10.0	1.0	6.0	0.3
	A-5000-7803	PS26R			2.5	10.0	1.0	6.0	0.3
	A-5000-3604	PS1R	64034		3.0	10.0	1.5	7.5	0.4
	A-5000-4154	PS12R	64035		4.0	10.0	1.5	10.0	0.4
	A-5000-4155	PS13R	64036		5.0	10.0	2.5	10.0	0.7
	A-5000-4156	PS14R	64037		6.0	10.0	2.5	10.0	0.9
	A-5000-4158	PS15R	64038		8.0	11.0	2.5	11.0	1.5
	Total length20 mm	A-5000-3603	PS2R	64040	2.0	20.0	1.4	14.0	0.4
	A-5000-7804	PS27R			2.5	20.0	1.4	14.0	0.4
	A-5000-4160	PS16R	64041		3.0	20.0	1.5	17.0	0.5
	A-5000-4161	PS17R	64042		4.0	20.0	1.5	20.0	0.6
Ruby Ball Stylus (Carbide Shaft)									
	Total length10 mm	A-5000-7800	PS29R		0.3	10.0	0.2	2.0	0.3
	A-5000-7805	PS10R	64031		0.5	10.0	0.4	3.0	0.3
	A-5000-7801	PS31R			0.7	10.0	0.5	4.0	0.3
	A-5003-1325				1.0	10.0	0.7	4.0	0.3
	Total length20 mm	A-5003-1345			0.5	20.0	0.3	7.0	0.48
	A-5003-0577				0.7	20.0	0.5	12.0	0.32
	A-5000-7808	PS23R	64039		1.0	20.0	0.7	7.0	0.50
	A-5003-0033	PS48R			1.0	20.0	0.8	12.5	0.41
	A-5003-0034	PS49R			1.5	20.0	1.0	12.5	0.50
	A-5003-3822				2.0	20.0	1.0	14.0	0.48
	A-5003-1896				2.5	20.0	1.0	15.5	0.50
	A-5003-0938				3.0	20.0	1.5	17.0	0.77
	A-5003-1029				4.0	22.0	2.0	22.0	1.24
	A-5003-0046	PS50R			5.0	20.0	2.5	20.0	1.98
	Total length30 mm	A-5000-8663	PS51R		1.0	27.5	0.7	20.5	0.40
	A-5003-0035				1.5	30.0	1.0	22.5	0.58
	A-5003-0036				2.0	30.0	1.5	22.5	0.99
	A-5003-0038				2.5	30.0	2.0	22.5	1.48
	A-5003-0040				3.0	30.0	2.0	27.0	1.49
	A-5003-0043				4.0	30.0	2.0	30.0	1.57
	A-5003-0047				5.0	30.0	2.5	30.0	2.57
Ruby Ball Stylus (Ceramic Shaft)									
	Total length30 mm	A-5003-4177			3.0	30.0	2.0	27.0	0.44
	A-5003-1370				4.0	30.0	2.0	30.0	0.68
	A-5003-4779				5.0	30.0	2.5	30.0	0.93
	A-5003-4780				6.0	30.0	2.5	30.0	1.11
Ruby Ball Stylus (Carbon Shaft)									
	Total length30 mm	A-5003-4241			4.0	30.0	2.0	30.0	0.57
	A-5003-4781				5.0	30.0	3.0	30.0	0.79
	A-5003-4782				6.0	30.0	3.0	30.0	0.96
Ruby Ball Stylus (Carbide Shaft)									
	Total length40 mm	A-5003-0037			2.0	40.0	1.5	32.5	1.29
	A-5003-0039				2.5	40.0	2.0	32.5	1.95
	A-5003-0041				3.0	40.0	2.0	37.0	1.97
	A-5003-0044				4.0	40.0	2.0	40.0	2.04
	A-5003-0048				5.0	40.0	2.5	40.0	3.17
	Total length50 mm	A-5003-0042			3.0	50.0	2.0	47.0	2.44
	A-5003-0045				4.0	50.0	2.0	50.0	2.52
	A-5003-0049				5.0	50.0	2.5	50.0	3.75



EWL (effective length)
Length from the position that the shaft does not interfere with the measured object to the center of the tip when measurement is carried out at a right angle to the measured object

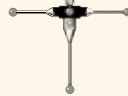
Outline Shape	Model	Name	Drawing number	Dimensions (mm)				Weight (g)	
				A	B	C	EWL		
Ruby Ball Stylus (Ceramic Shaft)									
	Total length 50 mm	A-5003-0064	PS66R		3.0	50.0	2.0	47.0	0.83
		A-5003-0065	PS67R		4.0	50.0	2.0	50.0	0.91
		A-5003-0066	PS68R		5.0	50.0	2.5	50.0	1.31
		A-5003-0470			6.0	50.0	2.5	50.0	1.49
	Total length 50 mm	A-5003-2285	GF504R		4.0	50.0	3.0	50.0	1.00
		A-5003-2286	GF505R		5.0	50.0	3.0	50.0	1.10
		A-5003-2287	GF506R		6.0	50.0	3.0	50.0	1.20
Ruby Ball Stylus (Carbon Shaft)									
	Total length 75 mm	A-5003-4784			4.0	75.0	2.0	75.0	0.75
		A-5003-4785			5.0	75.0	3.0	75.0	1.35
		A-5003-4786			6.0	75.0	3.0	75.0	1.45
	Total length 100 mm	A-5003-2289			4.0	100.0	3.0	100.0	1.50
		A-5003-2290			5.0	100.0	3.0	100.0	1.59
		A-5003-2291			6.0	100.0	3.0	100.0	1.78
StylusTool									
Model		A-5004-7582			PS9R				
Name		S7			S20				
Remarks		For M2 and M3 screw diameter styluses			For M2 carbon fiber stylus series				
Shape									

Outline Shape	Model	Name	Drawing number	Dimensions (mm)				Weight (g)
				A	B	C	D	
Extension (Stainless Steel)								
	A-5004-7610	SE7	64052		5.0	3.0		0.2
	A-5004-7585	SE4	64053		10.0	3.0		0.4
	A-5004-7586	SE5	64054		20.0	3.0		0.9
	A-5004-7591	SE6	64055		30.0	3.0		1.4
	A-5004-7611	SE18			40.0	3.0		1.8
Extension (Ceramic)								
	A-5003-0070	SE26			30.0	3.0		0.97
	A-5003-0071	SE27			40.0	3.0		1.22
	A-5003-0072	SE28			50.0	3.0		1.51
Extension (Carbon)								
	A-5003-2280	GF40E			40.0	3.0	3.5	0.9
	A-5003-2281	GF50E			50.0	3.0	3.5	1.0
	A-5003-2282	GF70E			70.0	3.0	3.5	1.3
	A-5003-2283	GF90E			90.0	3.0	3.5	1.5



Custom orders are also accepted.

Star Stylus

Model	A-5003-4011	A-5000-7811	A-5003-4787	A-5003-4788	A-5000-7629	A-5000-3626
Drawing pnumber	—	—	—	—	64047	64046
Name	—	PS28R	—	—	PS6R	PS7R
Cross diameter	10.0	10.0	20.0	20.0	18.0	30.0
Ball diameter	0.5	1.0	0.5	1.0	2.0	2.0
Shaft diameter	0.3	0.7	0.3	0.7	1.4	1.4
EWL	—	—	—	—	12.0	12.0
Weight (g)	0.7	0.5	0.7	0.9	1.3	1.8
						

Star Center

Model	A-5003-4789	A-5003-4790	A-5003-4791	A-5000-3609
Name	—	—	—	—
Ball diameter	1.0	0.5	1.0	2.0
Shaft diameter	0.7	0.4	0.7	1.4
EWL	3.5	7.0	11.0	12.0
Weight (g)	0.31	0.43	0.45	0.44
				

Disk Stylus

Model	A-5000-3611 Ruby	A-5000-4187 Steel	A-5000-7809 Steel	A-5000-3613 Steel	A-5000-7810 Steel
Drawing pnumber	64043	64045	—	64044	—
Name	PS3R	PS22R	PS33R	PS4R	PS34R
Disk diameter	6.0	25.0	18.0	18.0	25.0
Disk thickness	1.2	3.0	1.6	2.3	1.6
Roller depth	2.0	—	2.5	3.0	2.5
Shaft diameter	2.0	—	4.2	—	4.2
Weight (g)	0.6	3.8	3.0	2.7	4.0
					

Cylinder Stylus

Model	A-5004-7589 Steel	A-5004-7590 Steel	A-5000-8876 Ruby	A-5000-8877 Ruby	A-5000-7812 Ruby	A-5003-0073 Ruby
Drawing pnumber	64048	64049	—	—	—	—
Name	PS18R	PS19R	PS44R	PS45R	PS35R	PS69R
Cylinder diameter	1.5	3.0	1.0	1.5	2.0	4.0
Total length	10.75	12.75	15.0	15.0	20.0	22.6
Shaft diameter	1.0	1.5	—	—	1.6	2.0
EWL	1.25	3.8	8.0	8.0	7.2	10.0
Weight (g)	0.3	0.6	0.3	0.3	0.5	0.9
						

Hemispherical Tip Cylinder Stylus (Carbide)

Model	A-5003-1208	A-5003-1210	A-5003-1218	A-5003-1219	A-5003-1228	A-5003-0074	A-5003-1258
Drawing pnumber	—	—	—	—	—	PS70R	—
Cylinder diameter	0.3	0.5	1.0	1.5	2.0	2.0	3.0
Total length	10.2	15.3	35.5	15.8	16.0	40.0	22.5
EWL	2.7	7.8	28.0	8.3	8.5	32.0	22.5
Weight (g)	0.3	0.3	0.7	0.6	0.8	2.0	2.0
							

Special Stylus

Model	A-5004-7588 Steel	A-5000-7813 tungsten carbide	A-5000-3614 Ceramic
Drawing pnumber	64050	—	64051
Name	PS20R	PS36R	PS21R
Total length	15.0	10.0	11.0
Ball diameter	—	—	18.0
Tip shape	Non-spherical, Radius:0.05	Spherical, Radius:0.1	—
Weight (g)	0.7	0.7	3.3
Taper angle	30°	30°	—
			

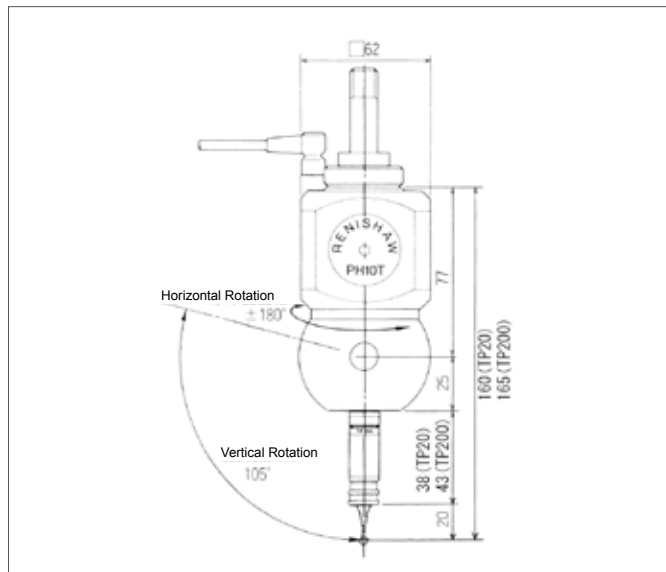
Swing Joint

Model	A-5000-7534
Drawing pnumber	64056
Name	SK2
Screw Siameter	M2
EWL mm (inches)	8.0 (0.32)
Center offset mm (inch)	4.5 (0.18)
Weight (g)	1.6
	

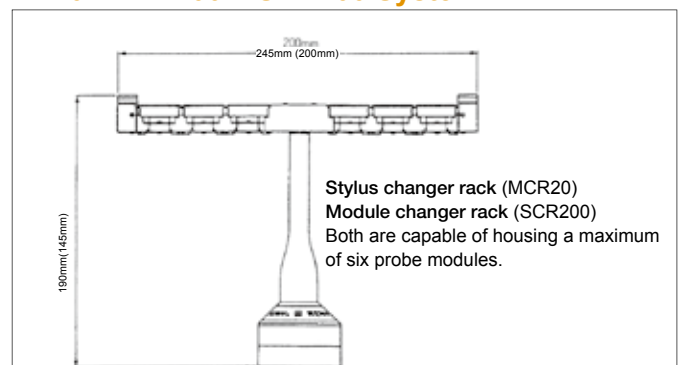
5-direction Joint

Model	A-5000-3627
Drawing pnumber	64057
Name	SC2
Screw Siameter	M2
EWL mm (inches)	7.5 (0.30)
Center size mm (inch)	7.0 (0.28)
Weight (g)	0.8
	

PH10T + TP20/TP200 Electronic Probes



PH10T + TP20 + MCR20 System PH10T + TP200 + SCR200 System



Stylus changer rack (MCR20)
Module changer rack (SCR200)
Both are capable of housing a maximum of six probe modules.

* The figure shows SCR200 changer rack. MSR20 dimensions are in the parentheses.

Configuration

· MCR20
Module changer rack: MCR20
SF module: 2 pieces
Installation kit
Stylus for alignment measurement

· SCR200
Stylus Changer Rack: SCR200
Connection cable (10m)
SF module: 3 pieces
Installation kit
Stylus for alignment measurement

PH10T Specifications

Horizontal surface rotation angle $\pm 180^\circ$ (48 positions in 7.5° steps)
Vertical surface rotation angle 0 to $+105^\circ$ (15 positions in 7.5° steps)

TP20 Specifications

Measurement direction $\pm X, \pm Y, \pm Z$
Repeatability Standard deviation $2\sigma = 0.35 \mu\text{m}$ or less (10 mm stylus)
Measuring force About 0.08 N (8 gf, orthogonal to probe shaft center)
(SF module) About 0.75 N (about 75 gf, probe shaft center direction)

TP200 Specifications

Measurement direction $\pm X, \pm Y, \pm Z$
Repeatability Standard deviation $2\sigma = 0.4 \mu\text{m}$ or less (50 mm Stylus)
Measuring force About 0.02 N (2 gf, orthogonal to probe shaft center)
(SF module) About 0.07 N (7 gf, probe shaft center direction)

Components

- Probe head (PH10T)
- Probe head controller (PHC10-3PLUS)
- Probe head driver (HCU1)
- Electronic probe (TP20) → With 2 SF modules
(TP200) → With 1 SF module
- $\phi 4$ Ball Stylus
- Magazine
- Instruction manual

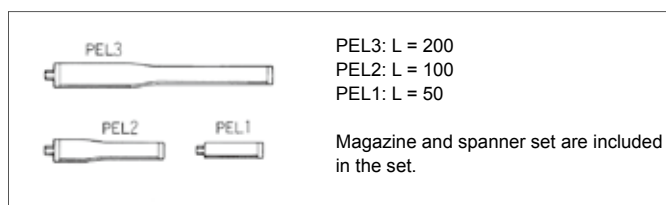
Stylus (carbon graphite) Shaft for Electronic Probes TP2/TP20/TP200

Shape			
Name	GF504R	GF505R	GF506R
Drawing Number	A-5003-2285	A-5003-2286	A-5003-2287

Shape				
Name	GF40E	GF50E	GF70E	GF90E
Drawing Number	A-5003-2280	A-5003-2281	A-5003-2282	A-5003-2283

Note) Items above require a dedicated tool (S20) for detachment and attachment.

Lightweight Extension Bar for PH1/PH10T



PEL3: L = 200
PEL2: L = 100
PEL1: L = 50

Magazine and spanner set are included in the set.

Electronic Probe PH1 + TP2

Technical drawing of the Electronic Probe PH1 + TP2. The drawing shows two views: a front view and a side view. The front view shows a probe head with a diameter of $\phi 40$ and a total height of 90. The side view shows a probe head with a diameter of $\phi 52$ and a total height of 42. The probe shaft has a diameter of $\phi 13$ and a length of 38. The probe tip has a diameter of $\phi 4$ and a length of 20. The probe head has a rotation angle of $\pm 115^\circ$ and the probe shaft has a rotation angle of $\pm 115^\circ$. The probe tip has a rotation angle of 360° [15 Steps].

Probe Number
CM92203

PH1 Specifications
Horizontal surface rotation angle 360° (15° steps)
Vertical surface rotation angle $\pm 115^\circ$

TP2 Specifications
Measurement direction $\pm X, \pm Y, +Z$
Repeatability Deviation $2\sigma = 0.35 \mu\text{m}$ or less
Measuring force About 0.07 to 0.15 N
(7 to 15gf, orthogonal to probe shaft center)
About 0.4 N
(about 40 gf, probe shaft center direction)

Components

- Probe head (PH1)
- Electronic Probe (TP2)
- $\phi 4$ Ball Stylus
- Magazine
- Instruction manual

Electronic Probe MH20i

Technical drawing of the Electronic Probe MH20i. The drawing shows a front view and a side view. The front view shows a probe head with a diameter of $\phi 48$ and a total height of 61. The side view shows a probe head with a diameter of $\phi 22$ and a total height of 37. The probe shaft has a diameter of $\phi 5.7$ and a length of 19.5. The probe tip has a diameter of $\phi 4$ and a length of 5.7. The probe head has a rotation angle of $\pm 180^\circ$ and the probe shaft has a rotation angle of $\pm 180^\circ$.

MH20i specifications
Horizontal surface rotation angle $\pm 180^\circ$ (15° steps)
Vertical surface rotation angle 0 to 90° (15° steps)

SF Module for TP20 Position Repeatability Accuracy
Measurement direction $\pm X, \pm Y, +Z$
Repeatability Standard deviation $2\sigma = 0.35 \mu\text{m}$
Measuring force 0.08 N (orthogonal to probe shaft center)
0.75 N (probe shaft center direction)

Components

- Probe head MH20i
- Electronic probe SF module for TP20
- $\phi 4$ Ball Stylus
- Instruction manual

Stylus Set for Electronic Probe TP2/TP20/TP200

Shape			
Name	PS23R	PS2R	PS17R
Drawing Number	64039	64040	64042

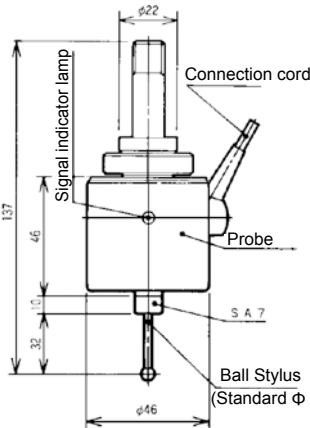
Magazine is also available.

Set consisting of stylus set, extension set and magazine is also available.

Extension Bar Set for Electronic Probe TP2/TP20/TP200

Shape				
Name	SE7	SE4	SE5	SE6
Drawing Number	64052	64053	64054	64055

Electronic Probes TP1 (S)



Probe Number
68274

Signal indicator lamp

Connection cord

Probe

SA 7

Ball Stylus
(Standard $\Phi 2$, $\Phi 5$)

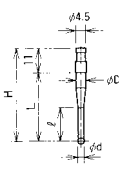
TP1 (S) Specifications

- Measurement direction $\pm X, \pm Y, \pm Z$
- Repeatability Standard deviation $2\sigma = 0.5\mu\text{m}$ or less
- Measuring force About 0.1 to 0.5 N
(10 to 15 gf, orthogonal to probe shaft center)
About 0.4 to 2.5 N
(about 40 to 250 gf, probe shaft center direction)

Components

- Electronic probe [TP1 (S)]
- $\Phi 2$, $\Phi 5$ Ball Stylus 1 each
- Stylus adaptor (SA7)
- Magazine

Stylus for TP1 (S) Electronic Probe



Sharp edge

Ball Stylus

Φd	ΦD	t	L	H	Stylus Number	Weight
$\Phi 0.7$	$\Phi 4.5$	3	31	42	60001	3.8 g
$\Phi 1$	$\Phi 4.5$	3	31	42	60002	4.0 g
$\Phi 1$	$\Phi 5$	5	64	75	60003	9.0 g
$\Phi 2$	$\Phi 4.5$	7	-	41	60004	3.3 g
$\Phi 2$	$\Phi 5$	8	64	75	60005	9.1 g
$\Phi 3$	$\Phi 4.5$	15	31	42	60006	3.0 g
$\Phi 3$	$\Phi 5$	20	64	75	60007	7.7 g
$\Phi 4$	$\Phi 4.5$	-	29	40	60008	3.8 g
$\Phi 4$	$\Phi 5$	50	64	75	60009	5.8 g
$\Phi 5$	$\Phi 4$	64	-	75	60011	7.9 g
$\Phi 5$	$\Phi 4.5$	-	29	40	60010	4.0 g

Cylindrical Stylus

Φd	ΦD	t	L	H	Stylus Number
$\Phi 2$	$\Phi 4$	8	31	42	3308
$\Phi 4$	-	31	-	42	3360
$\Phi 1$	$\Phi 4$	4	31	42	3307

Star Stylus

Stylus Number
68071 (18.5 g)

Stylus Number
68070 (35 g)

$\Phi 20$ Disk Stylus

Stylus Number
3361

Sphere $\Phi 20$

High precision touch trigger probe PTS-30

High precision measurement in all directions

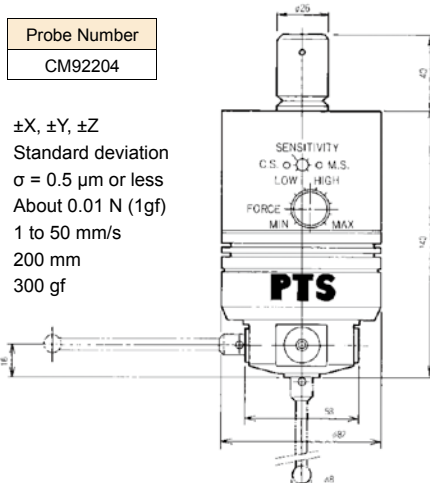
The non-directional probe mechanism and embedded high sensitivity sensor enable instantaneous measurement at a high accuracy with the measuring force of only 0.01 N.

Flexible stylus combinations

Styluses of up to 200 mm in length and 300 g in weight can be flexibly combined for measurement of workpieces in diverse shapes.

Stylus balance adjustment

The balance adjustment function can accurately control the weight balance of the combined styluses.



Probe Number
CM92204

PTS-30 Specifications

- Measurement direction $\pm X, \pm Y, \pm Z$
- Repeatability Standard deviation $\sigma = 0.5\mu\text{m}$ or less
- Measuring force About 0.01 N (1gf)
- Measuring speed 1 to 50 mm/s
- Maximum stylus length 200 mm
- Maximum stylus weight 300 gf

Components

- Probe Body (PTS-30)
- Magazine
- Instruction manual
- Adaptor cable for signal

Operating principle

When the stylus contacts the workpiece, the sensor issues a detection signal at the measuring force of 1gf (0.01N). The detection signal from the sensor is determined to be valid only after the contact point issues a confirmation signal. Therefore, the signal is read as the coordinate value of the measured data only when both the detection signal and the confirmation signal are issued.

Stylus Sets C1, C2, C3

These three stylus sets (C1, C2, C3) provide different stylus combinations. These are stylus sets for the PTS-30. We also manufacture other special order sets.

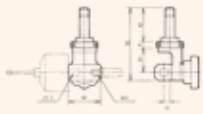
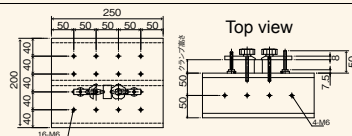
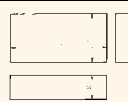
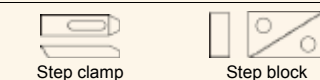
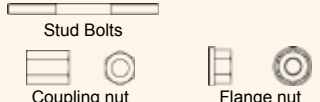
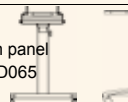
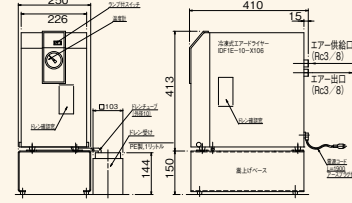
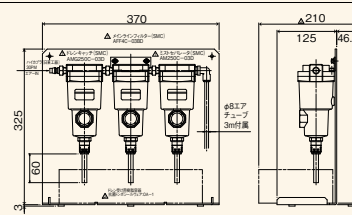
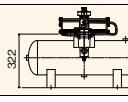
Name	Ball Stylus					
Shape						
Qty	C1: 1 C2: 1 C3: 0	4	1	4	2	2
Drawing Number	78011	78016	78131	78136	78126	78141
Weight	0.3 g	0.5 g	9.7 g	9.7 g	7.0 g	11.3 g

Name	Ball Stylus	M2-M5 joint	Swivel joint	Nipple joint
Shape				
Qty	C1: 2 C2: 0 C3: 0	2	1	2
Drawing Number	78146	78151	74001	78021
Weight	19.0 g	28.7 g	2.0 g	7.5 g

Name	360° Revolute joint	90° Revolute joint	Extension			
Shape						
Qty	C1: 1 C2: 0 C3: 0	1	4	2	1	1
Drawing Number	2689	78156	78061	78066	78071	78076
Weight	14.7 g	42.3 g	10.3 g	15.3 g	20.2 g	75.5 g

C1 and C2 are provided with two ruby balls of $\Phi 2$, $\Phi 4$ and $\Phi 8$ and adhesive. C1, C2 and C3 are provided with a stylus replacement jig, a hexagon head wrench and a magazine.

Accessories and peripherals

Name	Model	External View	Specifications	Remarks
Swing Probe B	10086		Manual rotary TP1 holder	For RVF
Ceramic Ball Origin Block	600332-9268-000		Diameter 30 mm Ceramic (Carl Zeiss)	FUSION NEX Series Pedestal M10
	CM99901-C136		Diameter 30 mm Ceramic (Carl Zeiss)	mju NEX Series (For TP200B) Pedestal M10
	CM99901-C097		Diameter 25.4 mm Silicon Nitride	SVA NEX Series mju NEX Series (Excluding TP200B) Pedestal M10
	CM99901-D005		Diameter 25.4 mm Ceramic	SVF NEX Series Pedestal M10
Riser Blocks	7021		Material:SS41 Work clamp height: 8 to 40mm	Fixture of small workpieces Size 250W × 200D × 100Hmm Fixing screw: Top 16-M6, side 4-M6
	10372		Material: Gabbro (10372) 2blocks in 1 set	Spacer placed under thin workpieces Dimensions: 200W × 100D × 50H mm
Clamping Kits	CM99901-H018		Large, medium and small step clamps (2 each) Large, medium and small step blocks (2 sets each, 2 blocks/set) Stud bolt in 6 different lengths 4 each 8 coupling nuts 4 flange nuts	For XYZAX: M10
	CM99931-H016			
Movable Stands	-		Operation Panel Height: 665 mm LCD Height: 750 mm	
Power Supply transformer	TWTC-2.1K		Input: 90 to 240 V Output: 100 V Capacity: 2.1 kVA	Specify the input voltage. dimensions:300W × 350D × 296H mm Weight :45 kg
Uninterruptible power supplies	SMU-HA102		Backup time 6 min.	120W × 380D × 295H mm Rated output 1 kVA (computer)
	SMU-HA302			190W × 530D × 499H mm Rated output 3 kVA (whole system)
Refrigerated Air Dryer	CM99901-S009		Max. Discharge: 100/120 L/min (50/60 Hz) Power Consumption: 165/190 W (50/60 Hz) Weight:16 kg Power supply single phase: AC100 V (50/60 Hz)	XYZAX dimensions226W × 410D × 413H mm Air supply port: RC3/8
Air Purifier Set	CM99901-S086		Drain catcher, line filter and mist separator set on mounting panel Plastic drain pan equipped	Applicable models: all models dimensions: 370W × 172D × 325H mm Air supply port: Hi coupler 30PM
Air Pressure Booster Filter Unit	CM99903-D221		Maximum pressure boost ratio 2:1 Tank capacity: 20 L	Guaranteed withstanding pressure: 1.5 MPa Supply pressure range: 0.1 to 1.0 MPa Set pressure range: 0.2 to 1.0 MPa
	CM99931-D041			