

Indicating Plug Gages 844 D



Features

- For the rapid testing of diameter, roundness and conicity of bores
- Especially suitable for testing batches with tight tolerances
- No rocking in the bore is required to determine the reversal point
- Therefore ideal for use in conjunction with a digital indicating instrument and for subsequent processing of measured values
- Measuring head has a hardened, hard chromium plated guide cylinder and carbide-tipped anvils
- The carbide expanding pin transfers radial movement to indicating instrument
- Constant measuring force as a result of built-in spring, thus eliminating user influence
- Measuring head, holder, depth extension, right angle attachments and depth stops are part of an extensive modular system

Technical Data of the Measuring Heads

Nominal diameter of the bore	Measuring range starting from the minimum bore dimension to be measured	
	844 Dk/844Dkr	844 Dks (from 4 mm)
2.98 - 8 mm	= - 0.02 + 0.1 mm	= - 0.02 + 0.1 mm
over 8 - 16 mm	= - 0.02 + 0.15 mm	= - 0.02 + 0.15 mm
over 16 - 32 mm	= - 0.02 + 0.2 mm	= - 0.02 + 0.15 mm
over 32 - 70 mm	= - 0.03 + 0.2 mm	= - 0.03 + 0.15 mm
over 70 - 200 mm	= - 0.04 + 0.2 mm	= - 0.04 + 0.15 mm

When placing an order please quote the nominal diameter and tolerances, for example:

Bore diameter	Tolerance	
35 D7	+ 80	+105 μ m
35 H7	+ 0	+25 μ m
35 R7	- 50	-25 μ m

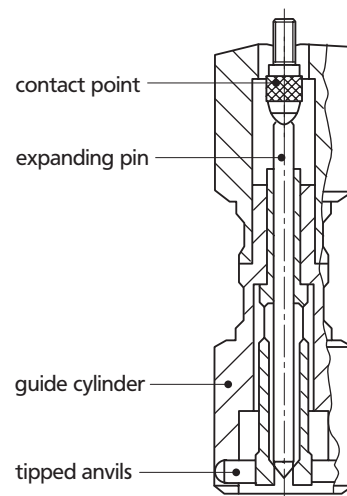
The diameter of the guide cylinder is produced between 0.02 and 0.07 mm smaller than the minimum dimension of the bore to be checked.

Example:

Plug Gage 844 Dk for bore 35 D7
 Nominal diameter: 35 mm
 Minimum dimension: 35.080 mm
 Maximum dimension: 35.105 mm
 Meas. range: 35.050 - 35.280 mm

Accuracy

Hysteresis	$\leq 0.4 \mu$ m
Repeatability	$\leq 1 \mu$ m
Linearity	$\leq 1 \%$
Linearity 844 Dks >16 mm	$\leq 2 \%$



Plug Gages

Measuring Head 844 Dk, Standard version

	Nominal ^① diameter mm	Manufacturing ^② tolerance mm	Meas. range ^③ dia. d mm	Order no.	
over	2.98 - 3.99 3.99 - 8	-0.02/-0.04 -0.02/-0.04	0.1 0.1	4480184* 4478200*	
over	8 - 16	-0.02/-0.04	0.15	4478201	
over over over	16 - 25 25 - 32 32 - 44	-0.02/-0.05 -0.02/-0.05 -0.02/-0.06	0.2 0.2 0.2	4478202 4478204 4478205	
over over over	44 - 50 50 - 60 60 - 70	-0.03/-0.06 -0.03/-0.06 -0.03/-0.06	0.2 0.2 0.2	4478206 4478207 4478208	
over over over over over over over over over over over over over over over over	70 - 80 80 - 90 90 - 100 100 - 110 110 - 120 120 - 130 130 - 140 140 - 150 150 - 160 160 - 170 170 - 180 180 - 190 190 - 200	-0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07	0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2	4478209 4478210 4478211 4478212 4478213 4478214 4478215 4478216 4478217 4478218 4478219 4478220 4478221	

① Nominal diameter = smallest bore diameter

② dia. d in reference to the smallest bore diameter

③ Measuring range refers to the nominal diameter

* With Adaptor for connection to the holder

Plug Gages

Measuring Head 844 Dks, for blind holes, to measure to almost the base of the bore

	Nominal ^① diameter mm	Manufacturing ^② tolerance mm	Meas. range ^③ dia. d mm	Order no.	
	4 - 8	-0.02/-0.04	0.10	4478285*	
over	8 - 16	-0.02/-0.04	0.15	4478245	
over over over	16 - 25 25 - 32 32 - 44	-0.02/-0.05 -0.02/-0.05 -0.02/-0.06	0.15 0.15 0.15	4478230 4478232 4478233	
over over over	44 - 50 50 - 60 60 - 70	-0.03/-0.06 -0.03/-0.06 -0.03/-0.06	0.15 0.15 0.15	4478234 4478235 4478236	
over over over over over over over over	70 - 80 80 - 90 90 - 100 100 - 110 110 - 120 120 - 130 130 - 140 140 - 150	-0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07	0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15	4478237 4478238 4478239 4478240 4478241 4478242 4478243 4478244	

① Nominal diameter = smallest bore diameter

② dia. d in reference to the smallest bore diameter

③ Measuring range refers to the nominal diameter

* With Adaptor for connection to the holder

Plug Gages

Measuring Head 844 Dkr, with an extended guide cylinder to measure through holes for the edge of a bore, ideal for narrow parts

	Nominal ^① diameter mm	Manufacturing ^② tolerance mm	Meas. range ^③ dia. d mm	Order no.	
over	2.98 - 3.99 3.99 - 8	-0.02/-0.04 -0.02/-0.04	0.1 0.1	4478272* 4478250*	
over	8 - 16	-0.02/-0.04	0.15	4478251	
over over over	16 - 25 25 - 32 32 - 44	-0.02/-0.05 -0.02/-0.05 -0.02/-0.06	0.2 0.2 0.2	4478252 4478254 4478255	
over over over	44 - 50 50 - 60 60 - 70	-0.03/-0.06 -0.03/-0.06 -0.03/-0.06	0.2 0.2 0.2	4478256 4478257 4478258	
over over over over over over over over over over over over over over over over	70 - 80 80 - 90 90 - 100 100 - 110 110 - 120 120 - 130 130 - 140 140 - 150 150 - 160 160 - 170 170 - 180 180 - 190 190 - 200	-0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07 -0.04/-0.07	0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2	4478259 4478260 4478261 4478262 4478263 4478264 4478265 4478266 4478267 4478268 4478269 4478270 4478271	

① Nominal diameter = smallest bore diameter

② dia. d in reference to the smallest bore diameter

③ Measuring range refers to the nominal diameter

* With Adaptor for connection to the holder

Modular Unit System 844 D

Standard Holder 844 Kg/844 Dg - Standard version

With locking clamp for an indicating instrument and a connecting thread for a measuring head. Heat insulated handle. The model 844 Dg is made from Invar steel.

Cat. no.	Connecting thread g	Length L mm/ <i>inch</i>	Handle dia. D mm/ <i>inch</i>	Order no.
844 Kg	M6 x 0.75	50/ 1.98"	14/ .55"	4470851
844 Dg	M10 x 1	150/ 6"	26/ 1"	4478851

Short Holder 844 Dgk - Short version

With locking clamp for an indicating instrument and a connecting thread for a measuring head. Heat insulated handle.

Cat. no.	Connecting thread g	Length L mm/ <i>inch</i>	Handle dia. D mm/ <i>inch</i>	Order no.
844 Dgk	M10 x 1	61/ 2.4"	26/ 1"	4478050

Holder 844 Dge for Inductive Measuring Probes

With long sleeve for shock and waterproof mounting of inductive measuring probes. Strain relief clamp for probe cable. Threaded connection for measuring heads. Heat insulated handle.

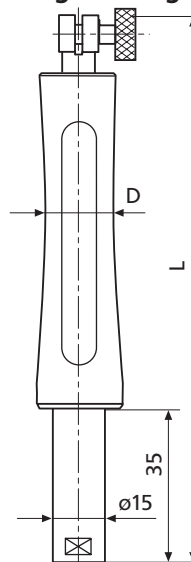
Cat. no.	Connecting thread g	Length L mm/ <i>inch</i>	Handle dia. D mm/ <i>inch</i>	Order no.
844 Dge	M6 x 0.75	195/ 7.7"	33/ 1.3"	4478020
	M10 x 1	195/ 7.7"	33/ 1.3"	4478021

Right Angle (Elbow) Attachment

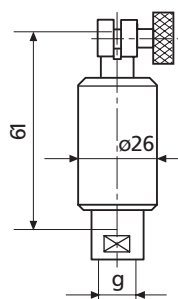
For measuring difficult to reach bores, e.g. in tight spaces, on a machine tool or when the bores on a work piece are inconveniently located. For screwing in between holder and measuring head.

Cat. no.	Connecting thread g mm	Elbow		Order no.
		Length L mm/ <i>inch</i>	Height H mm/ <i>inch</i>	
844 Kw	M6 x 0.75	26.5/ 1.04"	22.5/ .89"	4470110
844 Dw	M10 x 1	36.7/ 1.44"	17/ .67"	4478110

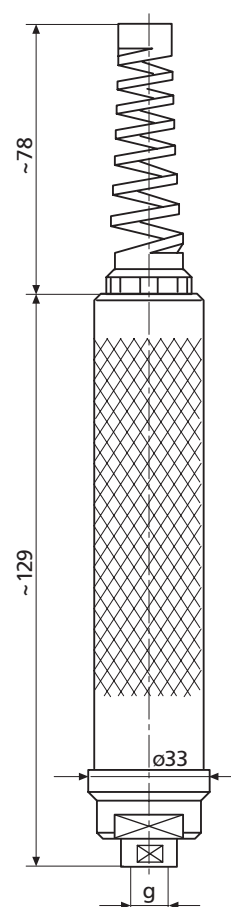
844 Kg / 844 Dg



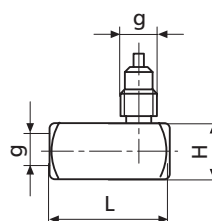
844 Dgk



844 Dge



844 Kw / 844 Dw



Modular Unit System 844 D

Extensions

For extra-deep bores. Screws in between holder and measuring heads. Several extensions can be screwed together as of 8 mm. Models 844 Dv and 844 Dvk made of **Invar steel**.

Cat. no.	Connecting thread g	Length L mm/ <i>inch</i>	dia. D mm/ <i>inch</i>	Order no.
844 Dvk	M6x0.75/M3.5x0.35	64/ 2.5"	3.8 / .15"	4478080
844 Kv	M6 x 0.75	64/ 2.5"	8 / .32"	4470070
844 Dv	M10 x 1	64/ 2.5"	15 / .6"	4478070
844 Dv	M10 x 1	80/ 3"	15 / .6"	4478071
844 Dv	M10 x 1	100/ 4"	15 / .6"	4478072
844 Dv	M10 x 1	125/ 5"	15 / .6"	4478073
844 Dv	M10 x 1	250/ 10"	15 / .6"	4478074
844 Dv	M10 x 1	500/ 20"	15 / .6"	4478075
844 Dv	M10 x 1	750/ 30"	15 / .6"	4478076

Depth Stops

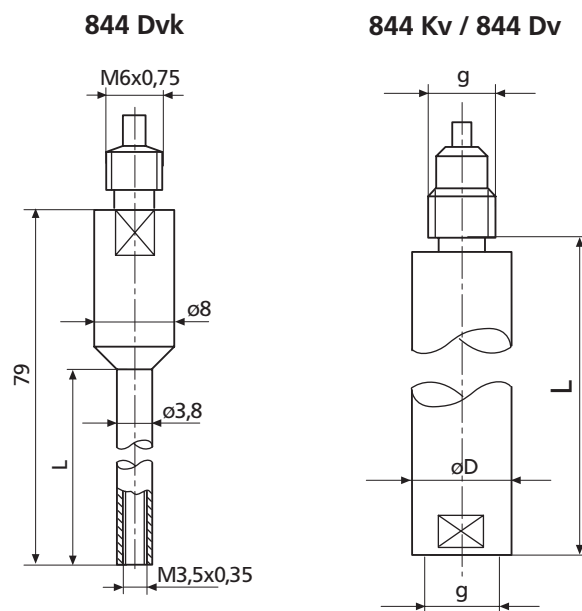
For limiting depth of insertion of measuring head in bore. Can be attached to Extensions 844 Kv or 844 Dv. With clamping screw.

Cat. no.	Mounting hole dia. d mm/ <i>inch</i>	Stop surface dia. A mm/ <i>inch</i>	Order no.
844 Kt	8 / .32"	25 / 1"	4470115
844 Dt	15 / .6"	45 / 1.8"	4478115
844 Dt	15 / .6"	75 / 3"	4478116
844 Dt	15 / .6"	110 / 4.3"	4478117
844 Dt	15 / .6"	160 / 6.3"	4478118
844 Dt	15 / .6"	220 / 8.6"	4478119

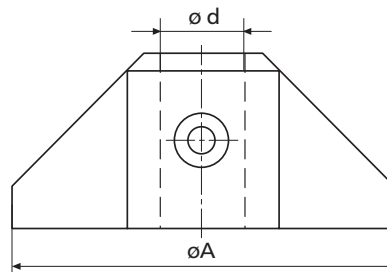
Depth Stop Rings

For limiting depth of insertion of measuring head in bore. Clamped onto the measuring head.

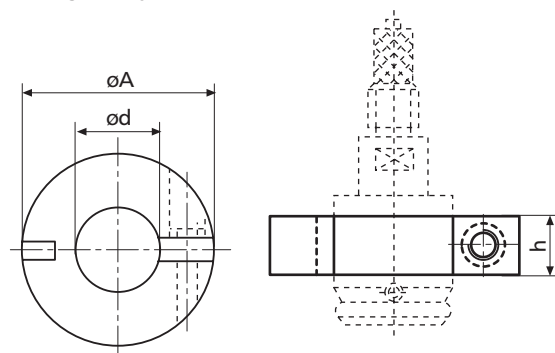
Cat. no.	Mounting hole dia. d mm	Stop surface dia. A mm/ <i>inch</i>	Height h mm/ <i>inch</i>	Order no.
844 Dtr	3 - 5	27 / 1.1"	10 / .4"	4478130
	5 - 8	30 / 1.2"	10 / .4"	4478130
	8 - 11	33 / 1.3"	10 / .4"	4478130
	11 - 15	37 / 1.5"	10 / .4"	4478130
	15 - 20	42 / 1.7"	10 / .4"	4478130
	20 - 25	51 / 2.0"	12 / .5"	4478131
	25 - 30	56 / 2.2"	12 / .5"	4478131
	30 - 35	61 / 2.4"	12 / .5"	4478131
	35 - 40	66 / 2.6"	12 / .5"	4478131
	40 - 44	71 / 2.8"	12 / .5"	4478131
	44 - 50	76 / 2.9"	12 / .5"	4478132
	50 - 60	86 / 3.4"	12 / .5"	4478132
	60 - 70	96 / 3.8"	12 / .5"	4478132
	70 - 80	106 / 4.1"	12 / .5"	4478132
	80 - 90	116 / 4.6"	12 / .5"	4478133
	90 - 100	126 / 4.9"	12 / .5"	4478133



844 Kt / 844 Dt

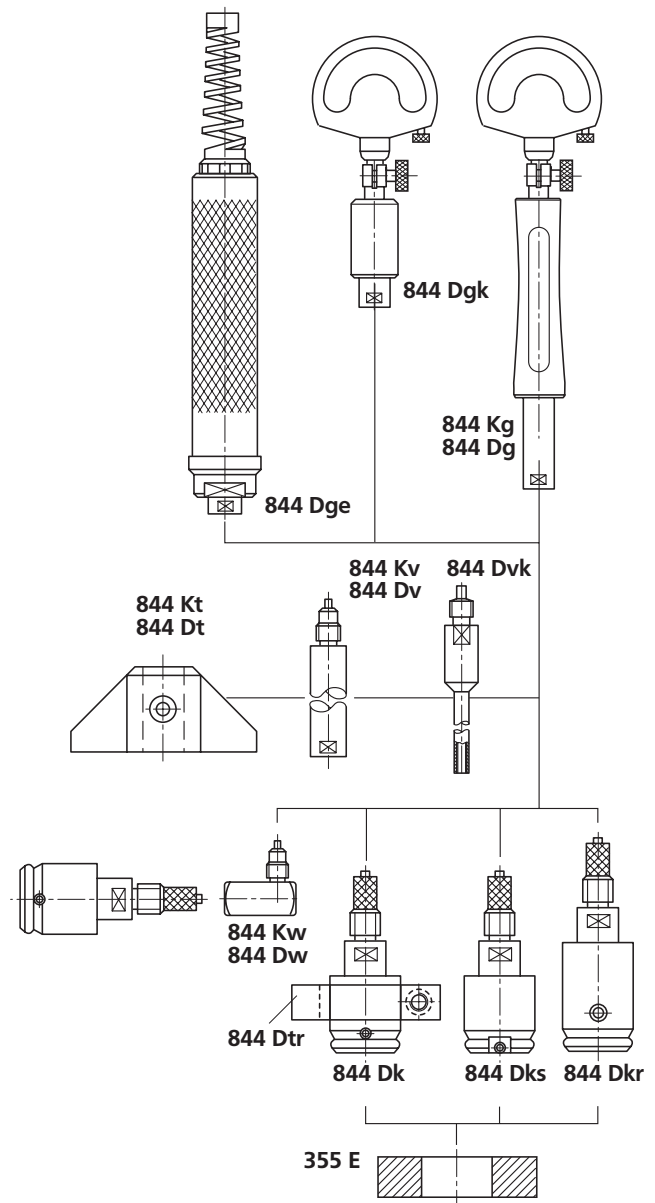


844 Dtr



Modular Units	Diameter of Measuring Heads		
	2.98 - 8 mm (.16 - .3")	8 - 16 mm (.3" - .6")	over 16 mm (over .6")
844 Kg	4470851		4478851
844 Dg			
844 Dgk			
844 Dge	4478020		4478021
844 Dvk 844 Kv 844 Dv	4478080	4470070	4478070 to 4478076
844 Kt 844 Dt		4470115	4478115 to 4478119
844 Kw 844 Dw	4470110		4478110
844 Dk 844 Dks 844 Dkr			
355 E	see page 9-62		

Modular Unit	Diameter of Measuring Heads			
	2,98 - 20 (.16-.787")	20 - 44 (.787-1.72")	44 - 80 (1.72-3.15")	80 - 100 (3.15-3.94")
844 Dtr	4478130	4478131	4478132	4478133



Indicating Instruments

All indicating instruments that has a 8 mm mounting shank may be used. Recommended are:

Indicator	Readings	Order no.
Compramess 1004	5 µm	4333000
Millimess 1003	1 µm	4334000
Supramess 1002	0,5 µm	4335000
Extramess 2000	0,2 µm, 0,5 µm, 1 µm	4346000
Extramess 2001	0,2 µm, 0,5 µm, 1 µm	4346100
Millimar C 1208	±3, 10, 30, 100, 300, 1000 µm 3000 µm, 10000 µm	5312080
Millimar S 1840	±10, 30, 100, 300, 1000 µm 3000 µm, 10000 µm	5330001

Digital Indicators see Chapter 5

Electrical Indicating Instruments see Chapter 7

Adjustment of Plug Gages 844 D

Ring Gage 355 E:

Special wear-resistant gage steel. Hardened and lapped. With actual deviation engraved.

Dimensions: DIN 2250, type C
Manufacturing tolerance: DIN 2250
Available diameters: 0.5-200 mm