



# Hydro Chuck Series

*New Standard For Next Generation*

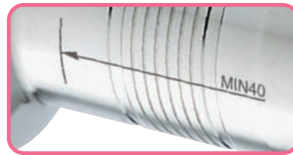


# Power Hydro Chuck - PHC·A

## NEW! Hydro chuck with collet holder flexibility!

PHC·A has improved clamping pressure for high precision, stable clamping force with collet versatility.

● **Minimum insertion length marking**  
Easy to see Min. insertion length!

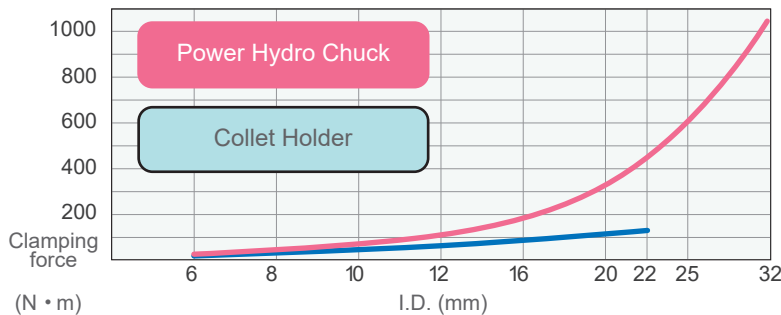


\*Short projection length holder may have min. insertion length number only (no lines)



## Easy to use! Versatile application!

● **20% more clamping force than a collet holder!**



● **High balance**

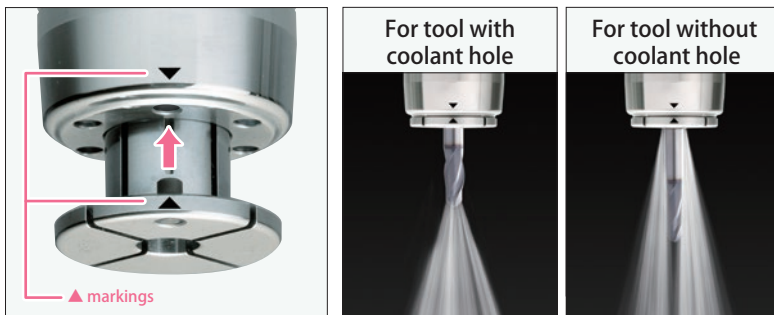
Pre-balanced design and individual balancing for each product allows for high rotational speeds.

**Max. RPM : 40,000min<sup>-1</sup>**

※For BT30-PHC03A-60. Max rotational speed for other holders can be found on the dimensions page.

● **φ3 shank cutting tool can be clamped using a collet with stopper pin. (PHS series)**

- Using PHS collets, a variety of shank sizes can be clamped while protecting the inner shank from damage / scratching.
- For higher precision chucking, align ▲ markings on PHC·A chuck and collet.



Collet with stopper pin

Internal coolant feeding enabled.

● **Easy! Quick! Simple Clamping!!**

Simple one hand clamping operation with a hex wrench.

● **Numerous ID sizes!**

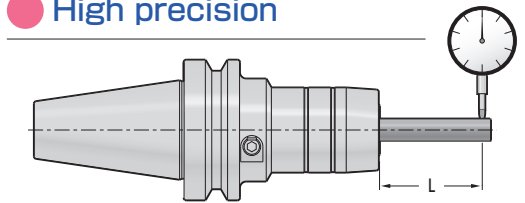
1mm increments on metric size (6mm – 32mm)  
\*φ3mm, φ4mm is available.  
Standard inch size (0.250" – 1.250")

● **Available in various spindle interfaces**

- BT/CAT/SK
- WBT-AHO / NBT-AHO
- HSK(A/E/F)
- UTS

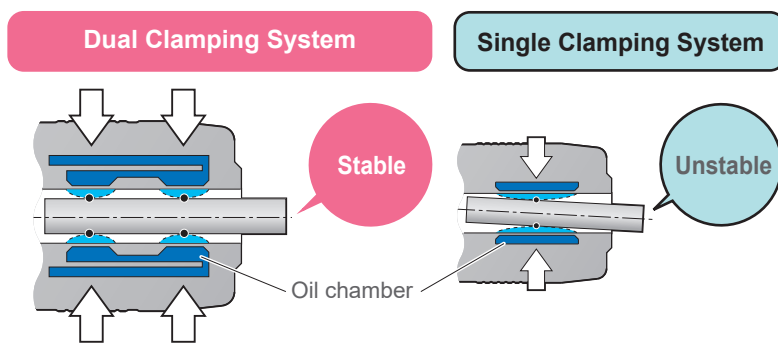
# Excellent performance!

● High precision



Chuck I.D.	Projection length (L)	Accuracy
ALL	4d	3 $\mu$ m

● "Dual clamping points system" for stable and high precision clamping.



● Anti-vibration effect provides better surface



BT40 Vertical Machining Center

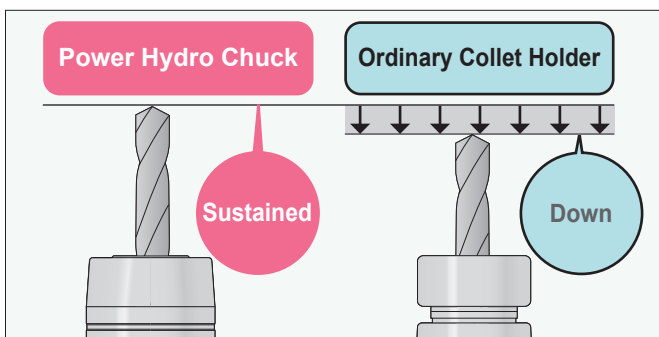
Work Piece Material S50C

19

Feed	550 mm/min
Rotational Speed	1650 min <sup>-1</sup>
Tool	4-flute carbide endmill
Feed per flute	0.08 mm/flute

# Minimize set up time!

● Tool pre-set without height offset



● Length adjustment function (Sold separately)



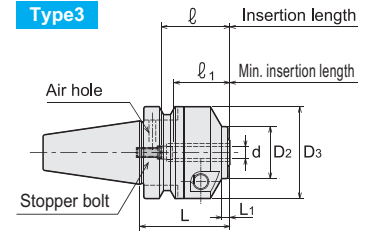
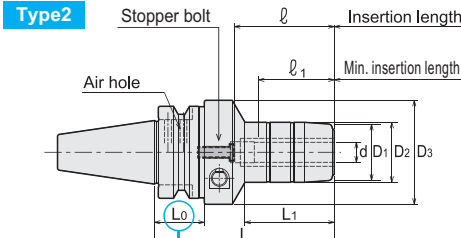
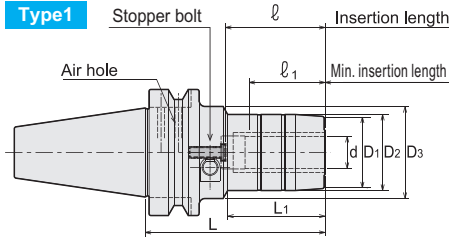
Cutting tool height can be adjusted on the side with a hex wrench. (BT, CAT and SK shank)

# PHC-A



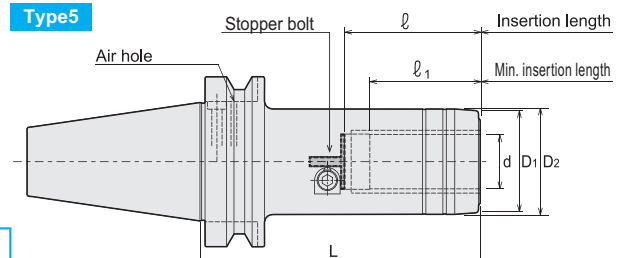
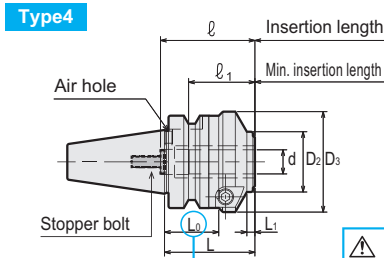
## Power Hydro Chuck

● Hydro chuck with collet holder flexibility. Suitable for high precision cutting.



For PHC03A & PHC04A, the stopper bolt is not included. Please order separately (special item).

**Caution**  
Take caution against A.T.C. arm and tool magazine interference.



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Take caution against A.T.C. arm and tool magazine interference.

## Metric Sizes

Unit : Metric

Code	Model	Type	d	L	L <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	L <sub>0</sub>	ℓ	ℓ <sub>1</sub>	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)
3930 01103045	BT30 -PHC03A - 45	3	3	45	4	—	24	46	—	—	18	40,000	0.6	L-4T
3930 01103060	- 60	1	3	60	19.8	—	24	46	—	27	18	38,000	0.7	
3930 01103090	- 90	1	3	90	44.8	—	24	46	—	49	18	36,000	0.8	
3930 01104045	BT30 -PHC04A - 45	3	4	45	4	—	25	46	—	—	24	40,000	0.6	
3930 01104065	- 65	1	4	65	25.1	—	25	46	—	29	24	38,000	0.7	
3930 01104090	- 90	1	4	90	45.1	—	25	46	—	49	24	36,000	0.8	
3930 01106045	BT30 -PHC06A - 45	3	6	45	4	—	26	46	—	34	29	37,000	0.6	
3930 01106075	- 75	1	6	75	30	24	26	46	—	34	29	35,000	0.7	
3930 01107045	BT30 -PHC07A - 45	3	7	45	4	—	28	46	—	34	29	36,000	0.6	
3930 01107075	- 75	1	7	75	30	26	28	46	—	34	29	34,000	0.8	
3930 01108045	BT30 -PHC08A - 45	3	8	45	4	—	28	46	—	34	29	36,000	0.6	
3930 01108075	- 75	1	8	75	30	26	28	46	—	34	29	34,000	0.8	
3930 01109045	BT30 -PHC09A - 45	3	9	45	4	—	30	46	—	45	33	36,000	0.6	
3930 01109090	- 90	1	9	90	46	28	30	46	—	55	40	33,000	0.8	
3930 01109105	- 105	2	9	105	44	28	30	52	40	50	40	27,000	1.1	
3930 01110045	BT30 -PHC10A - 45	3	10	45	4	—	30	46	—	45	33	35,000	0.6	
3930 01110090	- 90	1	10	90	46	28	30	46	—	55	40	32,000	0.8	
3930 01110105	- 105	2	10	105	44	28	30	52	40	50	40	27,000	1.1	
3930 01111045	BT30 -PHC11A - 45	3	11	45	4	—	30	46	—	45	33	34,000	0.6	
3930 01111090	- 90	1	11	90	46	30	32	46	—	55	40	31,000	0.9	
3930 01111105	- 105	2	11	105	45	30	32	52	40	50	40	27,000	1.1	
3930 01112045	BT30 -PHC12A - 45	3	12	45	4	—	30	46	—	45	33	32,000	0.6	
3930 01112090	- 90	1	12	90	46	30	32	46	—	55	40	30,000	0.9	
3930 01112105	- 105	2	12	105	45	30	32	52	40	50	40	26,000	1.1	
3930 01113045	BT30 -PHC13A - 45	4	13	45	4	—	30	50	27	45	33	30,000	0.6	
3930 01113090	- 90	1	13	90	48	34	36	46	—	55	40	27,000	0.9	
3930 01113105	- 105	2	13	105	46	34	36	52	40	50	40	24,000	1.2	
3930 01114045	BT30 -PHC14A - 45	4	14	45	4	—	30	50	27	45	33	28,000	0.6	
3930 01114090	- 90	1	14	90	48	34	36	46	—	55	40	26,000	1.0	
3930 01114105	- 105	2	14	105	46	34	36	52	40	50	40	23,000	1.2	
3930 01115045	BT30 -PHC15A - 45	4	15	45	4	—	30	50	27	45	33	26,000	0.6	
3930 01115090	- 90	1	15	90	48	36	38	46	—	55	40	24,000	1.0	
3930 01115105	- 105	2	15	105	46	36	38	52	40	50	40	22,000	1.2	
3930 01116045	BT30 -PHC16A - 45	4	16	45	4	—	30	50	27	45	33	24,000	0.6	
3930 01116090	- 90	1	16	90	48	36	38	46	—	55	40	22,000	1.0	
3930 01116105	- 105	2	16	105	46	36	38	52	40	50	40	20,000	1.2	
3930 01120090	-PHC20A - 90	1	20	90	49	40	42	46	—	50	40	20,000	1.0	
3930 01120120	- 120	1	20	120	69	40	42	46	—	70	40	18,000	1.3	
3930 01303065	BT40 -PHC03A - 65	1	3	65	19.8	—	24	46	—	27	18	20,000	1.2	
3930 01303090	- 90	1	3	90	44.8	—	24	46	—	49	18	20,000	1.3	
3930 01304070	BT40 -PHC04A - 70	1	4	70	25.1	—	25	46	—	29	24	20,000	1.3	
3930 01304090	- 90	1	4	90	45.1	—	25	46	—	49	24	20,000	1.3	
3930 01306075	BT40 -PHC06A - 75	1	6	75	30	24	26	46	—	34	29	20,000	1.3	
3930 01306105	- 105	1	6	105	41	24	26	46	—	45	29	20,000	1.5	

## Metric Sizes

Unit : Metric

Code	Model	Type	d	L	L <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	L <sub>0</sub>	ℓ	ℓ <sub>1</sub>	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)
3930 01307075	BT40 -PHC07A - 75	1	7	75	30	26	28	46	—	34	29	20,000	1.3	L-4T
3930 01307105	- 105	1	7	105	41	26	28	46	—	45	29	20,000	1.4	
3930 01308075	BT40 -PHC08A - 75	1	8	75	30	26	28	46	—	34	29	20,000	1.3	
3930 01308105	- 105	1	8	105	41	26	28	46	—	45	29	20,000	1.6	
3930 01309090	BT40 -PHC09A - 90	1	9	90	44	28	30	52	—	50	40	20,000	1.4	
3930 01309120	- 120	1	9	120	64	28	30	52	—	70	40	20,000	1.7	
3930 01310090	BT40 -PHC10A - 90	1	10	90	44	28	30	52	—	50	40	20,000	1.4	
3930 01310120	- 120	1	10	120	64	28	30	52	—	70	40	20,000	1.7	
3930 01311090	BT40 -PHC11A - 90	1	11	90	45	30	32	52	—	50	40	20,000	1.4	
3930 01311120	- 120	1	11	120	65	30	32	52	—	70	40	20,000	1.7	
3930 01312090	BT40 -PHC12A - 90	1	12	90	45	30	32	52	—	50	40	20,000	1.4	
3930 01312120	- 120	1	12	120	65	30	32	52	—	70	40	20,000	1.7	
3930 01313090	BT40 -PHC13A - 90	1	13	90	46	34	36	52	—	50	40	20,000	1.5	
3930 01313120	- 120	1	13	120	66	34	36	52	—	70	40	20,000	1.8	
3930 01314090	BT40 -PHC14A - 90	1	14	90	46	34	36	52	—	50	40	20,000	1.5	
3930 01314120	- 120	1	14	120	66	34	36	52	—	70	40	20,000	1.8	
3930 01315090	BT40 -PHC15A - 90	1	15	90	46	36	38	52	—	50	40	20,000	1.5	
3930 01315120	- 120	1	15	120	66	36	38	52	—	70	40	20,000	1.8	
3930 01316090	BT40 -PHC16A - 90	1	16	90	46	36	38	52	—	50	40	20,000	1.5	
3930 01316120	- 120	1	16	120	66	36	38	52	—	70	40	20,000	1.8	
3930 01320090	BT40 -PHC20A - 90	1	20	90	49	40	42	46	—	50	40	20,000	1.5	
3930 01320120	- 120	1	20	120	69	40	42	46	—	70	40	20,000	1.8	
3930 01325105	BT40 -PHC25A - 105	1	25	105	59	50	52	62	—	60	50	16,000	2.1	
3930 01325135	- 135	1	25	135	79	50	52	62	—	80	50	15,000	2.5	
3930 01332120	BT40 -PHC32A - 120	5	32	120	93	60	62	—	—	75	65	12,000	2.6	
3930 01332150	- 150	5	32	150	123	60	62	—	—	80	65	11,000	3.2	
3930 01506090	BT50 -PHC06A - 90	1	6	90	30	24	26	46	—	34	29	15,000	3.9	
3930 01506120	- 120	1	6	120	41	24	26	46	—	45	29	15,000	4.1	
3930 01506150	- 150	1	6	150	41	24	26	46	—	45	29	15,000	4.4	
3930 01507090	BT50 -PHC07A - 90	1	7	90	30	26	28	46	—	34	29	15,000	3.9	
3930 01507120	- 120	1	7	120	41	26	28	46	—	45	29	15,000	4.1	
3930 01507150	- 150	1	7	150	41	26	28	46	—	45	29	15,000	4.5	
3930 01508090	BT50 -PHC08A - 90	1	8	90	30	26	28	46	—	34	29	15,000	3.9	
3930 01508120	- 120	1	8	120	41	26	28	46	—	45	29	15,000	4.1	
3930 01508150	- 150	1	8	150	41	26	28	46	—	45	29	15,000	4.5	
3930 01509105	BT50 -PHC09A - 105	1	9	105	44	28	30	52	—	50	40	15,000	4.0	
3930 01509135	- 135	1	9	135	64	28	30	52	—	70	40	15,000	4.3	
3930 01509165	- 165	1	9	165	64	28	30	52	—	70	40	15,000	4.7	
3930 01510105	BT50 -PHC10A - 105	1	10	105	44	28	30	52	—	50	40	15,000	4.1	
3930 01510135	- 135	1	10	135	64	28	30	52	—	70	40	15,000	4.3	
3930 01510165	- 165	1	10	165	64	28	30	52	—	70	40	15,000	4.7	
3930 01511105	BT50 -PHC11A - 105	1	11	105	45	30	32	52	—	50	40	15,000	4.1	
3930 01511135	- 135	1	11	135	65	30	32	52	—	70	40	15,000	4.3	
3930 01511165	- 165	1	11	165	65	30	32	52	—	70	40	15,000	4.7	
3930 01512105	BT50 -PHC12A - 105	1	12	105	45	30	32	52	—	50	40	15,000	4.1	
3930 01512135	- 135	1	12	135	65	30	32	52	—	70	40	15,000	4.3	
3930 01512165	- 165	1	12	165	65	30	32	52	—	70	40	15,000	4.7	
3930 01513105	BT50 -PHC13A - 105	1	13	105	46	34	36	52	—	50	40	15,000	4.2	
3930 01513135	- 135	1	13	135	66	34	36	52	—	70	40	15,000	4.4	
3930 01513165	- 165	1	13	165	66	34	36	52	—	70	40	15,000	4.8	
3930 01514105	BT50 -PHC14A - 105	1	14	105	46	34	36	52	—	50	40	15,000	4.1	
3930 01514135	- 135	1	14	135	66	34	36	52	—	70	40	15,000	4.4	
3930 01514165	- 165	1	14	165	66	34	36	52	—	70	40	15,000	4.8	
3930 01515105	BT50 -PHC15A - 105	1	15	105	46	36	38	52	—	50	40	15,000	4.1	
3930 01515135	- 135	1	15	135	66	36	38	52	—	70	40	15,000	4.4	
3930 01515165	- 165	1	15	165	66	36	38	52	—	70	40	15,000	4.8	
3930 01516105	BT50 -PHC16A - 105	1	16	105	46	36	38	52	—	50	40	15,000	4.1	
3930 01516135	- 135	1	16	135	66	36	38	52	—	70	40	15,000	4.4	
3930 01516165	- 165	1	16	165	66	36	38	52	—	70	40	15,000	4.8	
3930 01520105	BT50 -PHC20A - 105	1	20	105	49	40	42	46	—	50	40	15,000	4.1	
3930 01520135	- 135	1	20	135	69	40	42	46	—	70	40	15,000	4.4	
3930 01520165	- 165	1	20	165	69	40	42	46	—	70	40	15,000	4.7	
3930 01525120	BT50 -PHC25A - 120	1	25	120	59	50	52	62	—	64	50	15,000	4.7	
3930 01525150	- 150	1	25	150	79	50	52	62	—	80	50	15,000	5.2	
3930 01525165	- 165	1	25	165	79	50	52	62	—	80	50	15,000	5.5	
3930 01532135	BT50 -PHC32A - 135	5	32	135	—	60	62	—	—	75	65	12,000	5.2	
3930 01532165	- 165	5	32	165	—	60	62	—	—	80	65	12,000	5.8	

PHC-A

PHC-S

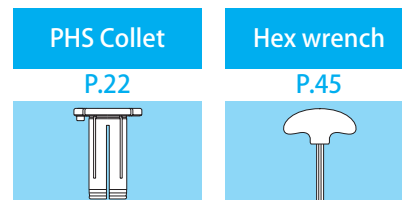
PHZ-S

- Cutting tool shank must be within tolerances specified below.  
Shank diameter less than 6mm : Within h6 tolerance  
Shank diameter 6mm and over : Within h7 tolerance  
\* h6 or 0/-0.01 tolerance is recommended when newly making a cutting tool.
- PHC12A and PHC20A have pin holes for collet with stopper pin on its body.
- Hex-head screws (included) are necessary to plug air hole for center through coolant feed.
- For PHC03A & PHC04A, the length adjustment unit cannot be used.
- Permissible speed is greatly affected by the stiffness of the machine spindle and the balance of the cutting tool. Gradually increase from a low speed, and use at the proper speed.

### Ordering Example

**BT40 - PHC 12 A - 120**  
 Shank size I.D. (d) Projection length (L)

Tightening torque ( Torque wrench : p.45 )		
Model	I.D. (d)	Tightening torque (Nm)
	mm	
PHC-A	06 ~ 08	11 ~ 12
PHC-A	09 ~ 20	7 ~ 8
PHC-A	25, 32	29 ~ 30

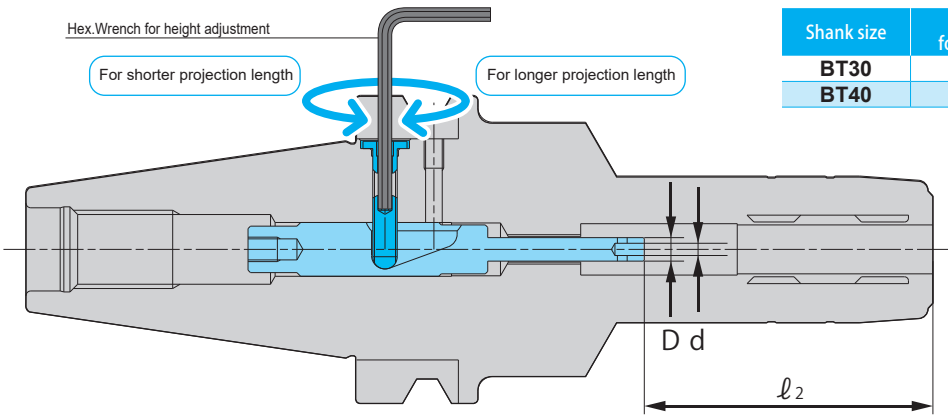


## Length adjustment unit

Hex.Wrench for height adjustment

For shorter projection length

For longer projection length



Shank size	Hex wrench size for height adjustment	Install / removal tool for length adjustment unit
<b>BT30</b>	2.5mm	STS-R1
<b>BT40</b>	2.5mm	STS-R2

Unit : Metric

Code	Length adjustment unit	Matched chuck	Adjustment range $l_2$	Adjustable amount	d Pin end I.D.	D Pin end O.D.
3934 23044023	PHC - P304 - 4023	BT30 -PHC06A - 75	29-34	5	2	3.8
3934 23044023	PHC - P304 - 4023	-PHC07A - 75	29-34	5	2	3.8
3934 23044023	PHC - P304 - 4023	-PHC08A - 75	29-34	5	2	3.8
3934 23053730	PHC - P305 - 3730	-PHC09A - 90	40-45	5	2.5	4.8
3934 23053725	PHC - P305 - 3725	- 90	45-50	5	2.5	4.8
3934 23053720	PHC - P305 - 3720	- 90	50-55	5	2.5	4.8
3934 23054537	PHC - P305 - 4537	-105	40-45	5	2.5	4.8
3934 23054532	PHC - P305 - 4532	-105	45-50	5	2.5	4.8
3934 23053730	PHC - P305 - 3730	-PHC10A - 90	40-45	5	2.5	4.8
3934 23053725	PHC - P305 - 3725	- 90	45-50	5	2.5	4.8
3934 23053720	PHC - P305 - 3720	- 90	50-55	5	2.5	4.8
3934 23054537	PHC - P305 - 4537	-105	40-45	5	2.5	4.8
3934 23054532	PHC - P305 - 4532	-105	45-50	5	2.5	4.8
3934 23053730	PHC - P305 - 3730	-PHC11A - 90	40-45	5	2.5	4.8
3934 23053725	PHC - P305 - 3725	- 90	45-50	5	2.5	4.8
3934 23053720	PHC - P305 - 3720	- 90	50-55	5	2.5	4.8
3934 23054537	PHC - P305 - 4537	-105	40-45	5	2.5	4.8
3934 23054532	PHC - P305 - 4532	-105	45-50	5	2.5	4.8
3934 23053730	PHC - P305 - 3730	-PHC12A - 90	40-45	5	2.5	4.8
3934 23053725	PHC - P305 - 3725	- 90	45-50	5	2.5	4.8
3934 23053720	PHC - P305 - 3720	- 90	50-55	5	2.5	4.8
3934 23054537	PHC - P305 - 4537	-105	40-45	5	2.5	4.8
3934 23054532	PHC - P305 - 4532	-105	45-50	5	2.5	4.8
3934 23053730	PHC - P305 - 3730	-PHC13A - 90	40-45	5	2.5	4.8
3934 23053725	PHC - P305 - 3725	- 90	45-50	5	2.5	4.8
3934 23053720	PHC - P305 - 3720	- 90	50-55	5	2.5	4.8
3934 23054537	PHC - P305 - 4537	-105	40-45	5	2.5	4.8
3934 23054532	PHC - P305 - 4532	-105	45-50	5	2.5	4.8
3934 23053730	PHC - P305 - 3730	-PHC14A - 90	40-45	5	2.5	4.8
3934 23053725	PHC - P305 - 3725	- 90	45-50	5	2.5	4.8
3934 23053720	PHC - P305 - 3720	- 90	50-55	5	2.5	4.8
3934 23054537	PHC - P305 - 4537	-105	40-45	5	2.5	4.8
3934 23054532	PHC - P305 - 4532	-105	45-50	5	2.5	4.8
3934 23053730	PHC - P305 - 3730	-PHC15A - 90	40-45	5	2.5	4.8
3934 23053725	PHC - P305 - 3725	- 90	45-50	5	2.5	4.8
3934 23053720	PHC - P305 - 3720	- 90	50-55	5	2.5	4.8
3934 23054537	PHC - P305 - 4537	-105	40-45	5	2.5	4.8
3934 23054532	PHC - P305 - 4532	-105	45-50	5	2.5	4.8
3934 23053730	PHC - P305 - 3730	-PHC16A - 90	40-45	5	2.5	4.8
3934 23053725	PHC - P305 - 3725	- 90	45-50	5	2.5	4.8
3934 23053720	PHC - P305 - 3720	- 90	50-55	5	2.5	4.8
3934 23054537	PHC - P305 - 4537	-105	40-45	5	2.5	4.8
3934 23054532	PHC - P305 - 4532	-105	45-50	5	2.5	4.8
3934 23054027	PHC - P305 - 4027	-PHC20A - 90	40-45	5	2.5	4.8
3934 23054022	PHC - P305 - 4022	- 90	45-50	5	2.5	4.8
3934 23054542	PHC - P305 - 4542	-120	50-55	5	2.5	4.8
3934 23054537	PHC - P305 - 4537	-120	55-60	5	2.5	4.8
3934 23054532	PHC - P305 - 4532	-120	60-65	5	2.5	4.8

Code	Length adjustment unit	Matched chuck	Adjustment range $\ell_2$	Adjustable amount	d Pin end I.D.	D Pin end O.D.
3934 24044423	PHC - P404 - 4423	BT40 -PHC06A - 75	29-34	5	2	3.8
3934 24046334	PHC - P404 - 6334	-105	29-39	10	2	3.8
3934 24046328	PHC - P404 - 6328	-105	35-45	10	2	3.8
3934 24044423	PHC - P404 - 4423	-PHC07A - 75	29-34	5	2	3.8
3934 24046334	PHC - P404 - 6334	-105	29-39	10	2	3.8
3934 24046328	PHC - P404 - 6328	-105	35-45	10	2	3.8
3934 24044423	PHC - P404 - 4423	-PHC08A - 75	29-34	5	2	3.8
3934 24046334	PHC - P404 - 6334	-105	29-39	10	2	3.8
3934 24046328	PHC - P404 - 6328	-105	35-45	10	2	3.8
3934 24054427	PHC - P405 - 4427	-PHC09A - 90	40-50	10	2.5	4.8
3934 24054952	PHC - P405 - 4952	-120	40-50	10	2.5	4.8
3934 24054942	PHC - P405 - 4942	-120	50-60	10	2.5	4.8
3934 24054932	PHC - P405 - 4932	-120	60-70	10	2.5	4.8
3934 24054427	PHC - P405 - 4427	-PHC10A - 90	40-50	10	2.5	4.8
3934 24054952	PHC - P405 - 4952	-120	40-50	10	2.5	4.8
3934 24054942	PHC - P405 - 4942	-120	50-60	10	2.5	4.8
3934 24054932	PHC - P405 - 4932	-120	60-70	10	2.5	4.8
3934 24054427	PHC - P405 - 4427	-PHC11A - 90	40-50	10	2.5	4.8
3934 24054952	PHC - P405 - 4952	-120	40-50	10	2.5	4.8
3934 24054942	PHC - P405 - 4942	-120	50-60	10	2.5	4.8
3934 24054932	PHC - P405 - 4932	-120	60-70	10	2.5	4.8
3934 24054427	PHC - P405 - 4427	-PHC12A - 90	40-50	10	2.5	4.8
3934 24054952	PHC - P405 - 4952	-120	40-50	10	2.5	4.8
3934 24054942	PHC - P405 - 4942	-120	50-60	10	2.5	4.8
3934 24054932	PHC - P405 - 4932	-120	60-70	10	2.5	4.8
3934 24054427	PHC - P405 - 4427	-PHC13A - 90	40-50	10	2.5	4.8
3934 24054952	PHC - P405 - 4952	-120	40-50	10	2.5	4.8
3934 24054942	PHC - P405 - 4942	-120	50-60	10	2.5	4.8
3934 24054932	PHC - P405 - 4932	-120	60-70	10	2.5	4.8
3934 24054427	PHC - P405 - 4427	-PHC14A - 90	40-50	10	2.5	4.8
3934 24054952	PHC - P405 - 4952	-120	40-50	10	2.5	4.8
3934 24054942	PHC - P405 - 4942	-120	50-60	10	2.5	4.8
3934 24054932	PHC - P405 - 4932	-120	60-70	10	2.5	4.8
3934 24054427	PHC - P405 - 4427	-PHC15A - 90	40-50	10	2.5	4.8
3934 24054952	PHC - P405 - 4952	-120	40-50	10	2.5	4.8
3934 24054942	PHC - P405 - 4942	-120	50-60	10	2.5	4.8
3934 24054932	PHC - P405 - 4932	-120	60-70	10	2.5	4.8
3934 24054427	PHC - P405 - 4427	-PHC16A - 90	40-50	10	2.5	4.8
3934 24054952	PHC - P405 - 4952	-120	40-50	10	2.5	4.8
3934 24054942	PHC - P405 - 4942	-120	50-60	10	2.5	4.8
3934 24054932	PHC - P405 - 4932	-120	60-70	10	2.5	4.8
3934 24054427	PHC - P405 - 4427	-PHC20A - 90	40-50	10	2.5	4.8
3934 24054952	PHC - P405 - 4952	-120	40-50	10	2.5	4.8
3934 24054942	PHC - P405 - 4942	-120	50-60	10	2.5	4.8
3934 24054932	PHC - P405 - 4932	-120	60-70	10	2.5	4.8
3934 24054432	PHC - P405 - 4432	-PHC25A -105	50-60	10	2.5	4.8
3934 24055452	PHC - P405 - 5452	-135	50-60	10	2.5	4.8
3934 24055442	PHC - P405 - 5442	-135	60-70	10	2.5	4.8
3934 24055432	PHC - P405 - 5432	-135	70-80	10	2.5	4.8
3934 24054432	PHC - P405 - 4432	-PHC32A -120	65-75	10	2.5	4.8
3934 24055452	PHC - P405 - 5452	-150	65-75	10	2.5	4.8
3934 24054952	PHC - P405 - 4952	-150	70-80	10	2.5	4.8

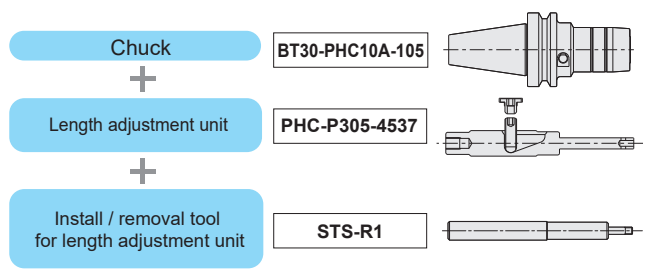
PHC-A

PHC-S

PHZ-S

### Ordering Example

BT30-PHC10A-105 with adjustment range of 40-45mm (Adjustable amount : 5mm).



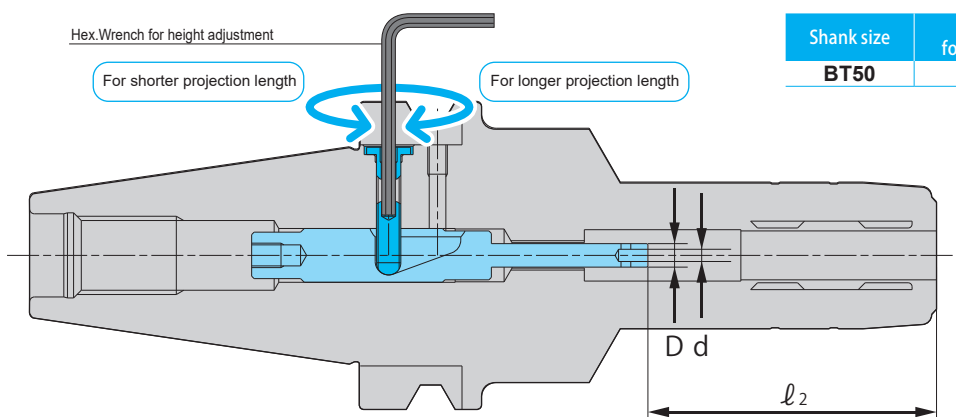
1. Length adjustment unit can be used for all projection except 45mm.
2. Length adjustment unit can be used with BT, CAT and SK shank Chucks only.
3. For PHC03A & PHC04A, the length adjustment unit cannot be used.

## Length adjustment unit

Hex.Wrench for height adjustment

For shorter projection length

For longer projection length



Shank size	Hex wrench size for height adjustment	Install / removal tool for length adjustment unit
<b>BT50</b>	3mm	STS-R2

Unit : Metric

Code	Length adjustment unit	Matched chuck	Adjustment range $l_2$	Adjustable amount	d Pin end I.D.	D Pin end O.D.
3934 25045129	PHC - P504 - 5129	BT50 -PHC06A - 90	29-34	5	2	3.8
3934 25047139	PHC - P504 - 7139	-120	29-45	16	2	3.8
3934 25040139	PHC - P504 -10139	-150	29-45	16	2	3.8
3934 25045129	PHC - P504 - 5129	-PHC07A - 90	29-34	5	2	3.8
3934 25047139	PHC - P504 - 7139	-120	29-45	16	2	3.8
3934 25040139	PHC - P504 -10139	-150	29-45	16	2	3.8
3934 25045129	PHC - P504 - 5129	-PHC08A - 90	29-34	5	2	3.8
3934 25047139	PHC - P504 - 7139	-120	29-45	16	2	3.8
3934 25040139	PHC - P504 -10139	-150	29-45	16	2	3.8
3934 25055133	PHC - P505 - 5133	-PHC09A -105	40-50	10	2.5	4.8
3934 25056153	PHC - P505 - 6153	-135	40-55	15	2.5	4.8
3934 25056138	PHC - P505 - 6138	-135	55-70	15	2.5	4.8
3934 25059153	PHC - P505 - 9153	-165	40-55	15	2.5	4.8
3934 25059138	PHC - P505 - 9138	-165	55-70	15	2.5	4.8
3934 25055133	PHC - P505 - 5133	-PHC10A -105	40-50	10	2.5	4.8
3934 25056153	PHC - P505 - 6153	-135	40-55	15	2.5	4.8
3934 25056138	PHC - P505 - 6138	-135	55-70	15	2.5	4.8
3934 25059153	PHC - P505 - 9153	-165	40-55	15	2.5	4.8
3934 25059138	PHC - P505 - 9138	-165	55-70	15	2.5	4.8
3934 25055133	PHC - P505 - 5133	-PHC11A -105	40-50	10	2.5	4.8
3934 25056153	PHC - P505 - 6153	-135	40-55	15	2.5	4.8
3934 25056138	PHC - P505 - 6138	-135	55-70	15	2.5	4.8
3934 25059153	PHC - P505 - 9153	-165	40-55	15	2.5	4.8
3934 25059138	PHC - P505 - 9138	-165	55-70	15	2.5	4.8
3934 25055133	PHC - P505 - 5133	-PHC12A -105	40-50	10	2.5	4.8
3934 25056153	PHC - P505 - 6153	-135	40-55	15	2.5	4.8
3934 25056138	PHC - P505 - 6138	-135	55-70	15	2.5	4.8
3934 25059153	PHC - P505 - 9153	-165	40-55	15	2.5	4.8
3934 25059138	PHC - P505 - 9138	-165	55-70	15	2.5	4.8
3934 25055133	PHC - P505 - 5133	-PHC13A -105	40-50	10	2.5	4.8
3934 25056153	PHC - P505 - 6153	-135	40-55	15	2.5	4.8
3934 25056138	PHC - P505 - 6138	-135	55-70	15	2.5	4.8
3934 25059153	PHC - P505 - 9153	-165	40-55	15	2.5	4.8
3934 25059138	PHC - P505 - 9138	-165	55-70	15	2.5	4.8
3934 25055133	PHC - P505 - 5133	-PHC14A -105	40-50	10	2.5	4.8
3934 25056153	PHC - P505 - 6153	-135	40-55	15	2.5	4.8
3934 25056138	PHC - P505 - 6138	-135	55-70	15	2.5	4.8
3934 25059153	PHC - P505 - 9153	-165	40-55	15	2.5	4.8
3934 25059138	PHC - P505 - 9138	-165	55-70	15	2.5	4.8
3934 25055133	PHC - P505 - 5133	-PHC15A -105	40-50	10	2.5	4.8
3934 25056153	PHC - P505 - 6153	-135	40-55	15	2.5	4.8
3934 25056138	PHC - P505 - 6138	-135	55-70	15	2.5	4.8
3934 25059153	PHC - P505 - 9153	-165	40-55	15	2.5	4.8
3934 25059138	PHC - P505 - 9138	-165	55-70	15	2.5	4.8

PHC-A

PHC-S

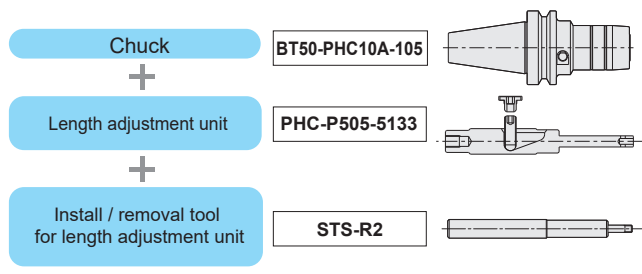
PHZ-S



Code	Length adjustment unit	Matched chuck	Adjustment range $\ell_2$	Adjustable amount	d Pin end I.D.	D Pin end O.D.
3934 25055133	<b>PHC - P505 - 5133</b>	-PHC16A -105	40-50	10	2.5	4.8
3934 25056153	<b>PHC - P505 - 6153</b>	-135	40-55	15	2.5	4.8
3934 25056138	<b>PHC - P505 - 6138</b>	-135	55-70	15	2.5	4.8
3934 25059153	<b>PHC - P505 - 9153</b>	-165	40-55	15	2.5	4.8
3934 25059138	<b>PHC - P505 - 9138</b>	-165	55-70	15	2.5	4.8
3934 25055133	<b>PHC - P505 - 5133</b>	BT50 -PHC20A -105	40-50	10	2.5	4.8
3934 25056153	<b>PHC - P505 - 6153</b>	-135	40-55	15	2.5	4.8
3934 25056138	<b>PHC - P505 - 6138</b>	-135	55-70	15	2.5	4.8
3934 25059153	<b>PHC - P505 - 9153</b>	-165	40-55	15	2.5	4.8
3934 25059138	<b>PHC - P505 - 9138</b>	-165	55-70	15	2.5	4.8
3934 25055138	<b>PHC - P505 - 5138</b>	-PHC25A -120	50-64	14	2.5	4.8
3934 25056158	<b>PHC - P505 - 6158</b>	-150	50-65	15	2.5	4.8
3934 25056143	<b>PHC - P505 - 6143</b>	-150	65-80	15	2.5	4.8
3934 25057658	<b>PHC - P505 - 7658</b>	-165	50-65	15	2.5	4.8
3934 25057643	<b>PHC - P505 - 7643</b>	-165	65-80	15	2.5	4.8
3934 25055138	<b>PHC - P505 - 5138</b>	-PHC32A -135	65-75	10	2.5	4.8
3934 25056158	<b>PHC - P505 - 6158</b>	-165	65-80	15	2.5	4.8

### Ordering Example

BT50-PHC10A-105 with adjustment range of 40-45mm (Adjustable amount : 5mm).



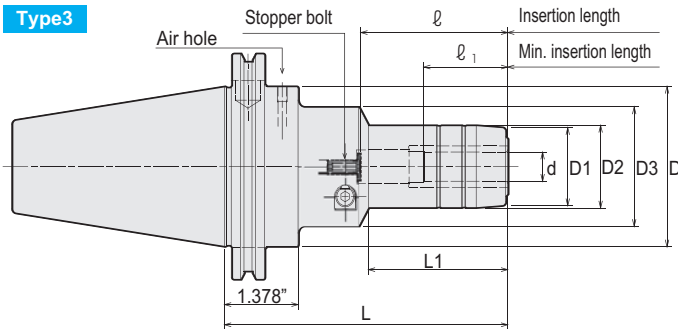
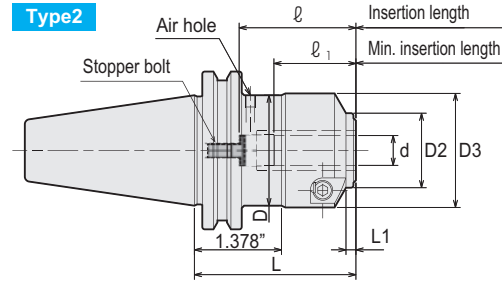
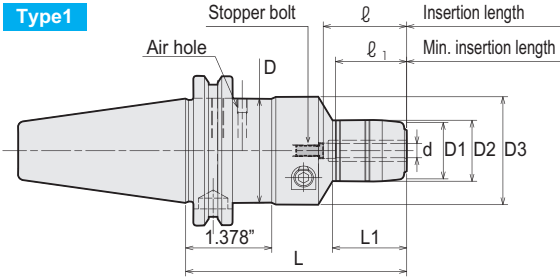
1. Length adjustment unit can be used for all projection except 45mm.
2. Length adjustment unit can be used with BT, CAT and SK shank Chucks only.

# PHC-A



Power Hydro Chuck

- Hydro chuck with collet holder flexibility. Suitable for high precision cutting.



## Inch Sizes

Unit : Inch

Code	Model	Type	d	L	L1	D	D1	D2	D3	l	l1	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)
1860 11408065	CAT40 -PHC0250A -65	2	0.25	2.56	0.158	1.75	—	1.024	1.807	1.338	1.142	20,000	1.3	L-4T (4mm)
1860 11408090	-90	1	0.25	3.544	1.19	1.75	0.945	1.024	1.811	1.338	1.142	20,000	1.4	
1860 11408120	-120	1	0.25	4.725	1.623	1.75	0.945	1.024	1.811	1.771	1.142	20,000	1.7	
1860 11410065	CAT40 -PHC0312A -65	2	0.312	2.56	0.158	1.75	—	1.103	1.807	1.338	1.142	20,000	1.3	
1860 11410090	-90	1	0.312	3.544	1.213	1.75	1.024	1.103	1.811	1.338	1.142	20,000	1.4	
1860 11410120	-120	1	0.312	4.725	1.646	1.75	1.024	1.103	1.811	1.771	1.142	20,000	1.7	
1860 11412065	CAT40 -PHC0375A -65	2	0.375	2.56	0.158	1.75	—	1.182	1.807	1.771	1.3	20,000	1.3	
1860 11412105	-105	1	0.375	4.134	1.758	1.75	1.103	1.182	2.048	1.968	1.575	20,000	1.6	
1860 11412135	-135	1	0.375	5.315	2.546	1.75	1.103	1.182	2.048	2.755	1.575	20,000	1.8	
1860 11416065	CAT40 -PHC0500A -65	2	0.5	2.56	0.158	1.75	—	1.182	1.969	1.771	1.3	20,000	1.3	
1860 11416105	-105	1	0.5	4.134	1.826	1.75	1.339	1.418	2.048	1.968	1.575	20,000	1.6	
1860 11416135	-135	1	0.5	5.315	2.614	1.75	1.339	1.418	2.048	2.755	1.575	20,000	1.9	
1860 11420065	CAT40 -PHC0625A -65	2	0.625	2.56	0.158	1.75	—	1.182	1.969	1.771	1.3	20,000	1.3	
1860 11420105	-105	1	0.625	4.134	1.849	1.75	1.418	1.496	2.048	1.968	1.575	20,000	1.7	
1860 11420135	-135	1	0.625	5.315	2.637	1.75	1.418	1.496	2.048	2.755	1.575	20,000	2	
1860 11424105	CAT40 -PHC0750A -105	1	0.75	4.134	1.963	1.75	1.575	1.654	1.811	1.968	1.575	20,000	1.6	
1860 11424135	-135	1	0.75	5.315	2.75	1.75	1.575	1.654	1.811	2.755	1.575	20,000	1.9	
1860 11432120	CAT40 -PHC1000A -120	1	1	4.725	2.328	1.75	1.969	2.048	2.441	2.362	1.969	16,000	2.2	L-6T (6mm)
1860 11432150	-150	1	1	5.906	3.115	1.75	1.969	2.048	2.441	3.149	1.969	15,000	1.7	
1860 11440135	CAT40 -PHC1250A -135	1	1.25	5.315	—	1.75	2.363	2.441	2.441	2.952	2.56	12,000	2.8	
1860 11440165	-165	1	1.25	6.496	—	1.75	2.363	2.441	—	3.149	2.56	11,000	3.4	

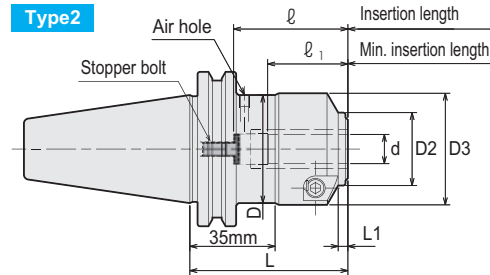
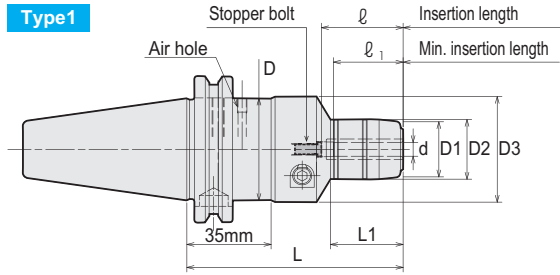


# PHC-A

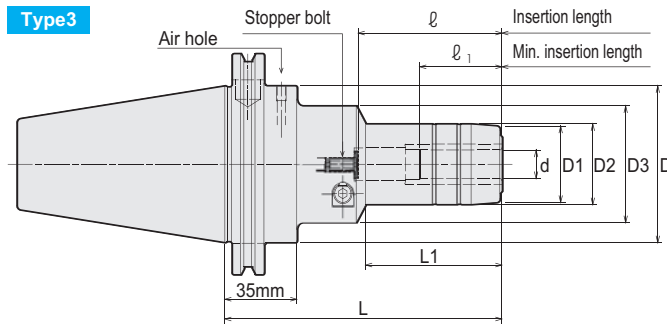


Power Hydro Chuck

- Hydro chuck with collet holder flexibility. Suitable for high precision cutting.



For PHC03A & PHC04A, the stopper bolt is not included. Please order separately (special item).



## Metric Sizes

Unit : Metric

Code	Model	Type	d	L	L1	D	D1	D2	D3	ℓ	ℓ1	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)
1860 01403075	CAT40 -PHC03A -75	1	3	75	19.8	—	—	24	46	28	18	20,000	-	L-4T (4mm)
1860 01404080	CAT40 -PHC04A -80	1	4	80	25.1	—	—	25	46	29	24	20,000	1.3	
1860 01406065	CAT40 -PHC06A -65	2	6	65	4	—	—	26	44.45	34	29	20,000	1.3	
1860 01406090	-90	1	6	90	30	44.45	24	26	46	34	29	20,000	1.4	
1860 01406120	-120	1	6	120	41	44.45	24	26	46	45	29	20,000	1.7	
1860 01407065	CAT40 -PHC07A -65	2	7	65	4	—	—	28	44.45	34	29	20,000	-	
1860 01407090	-90	1	7	90	30	44.45	26	28	46	34	29	20,000	-	
1860 01407120	-120	1	7	120	41	44.45	26	28	46	45	29	20,000	-	
1860 01408065	CAT40 -PHC08A -65	2	8	65	4	—	—	28	44.45	34	29	20,000	1.3	
1860 01408090	-90	1	8	90	30	44.45	26	28	46	34	29	20,000	1.4	
1860 01408120	-120	1	8	120	41	44.45	26	28	46	45	29	20,000	1.7	
1860 01409065	CAT40 -PHC09A -65	2	9	65	4	—	—	30	44.45	45	33	20,000	-	
1860 01409105	-105	1	9	105	44	44.45	28	30	52	50	40	20,000	-	
1860 01409135	-135	1	9	135	64	44.45	28	30	52	70	40	20,000	-	
1860 01410065	CAT40 -PHC10A -65	2	10	65	4	—	—	30	44.45	45	33	20,000	1.3	
1860 01410105	-105	1	10	105	44	44.45	28	30	52	50	40	20,000	1.6	
1860 01410135	-135	1	10	135	64	44.45	28	30	52	70	40	20,000	1.8	
1860 01411065	CAT40 -PHC11A -65	2	11	65	4	—	—	30	44.45	45	33	20,000	-	
1860 01411105	-105	1	11	105	45	44.45	30	32	52	50	40	20,000	-	
1860 01411135	-135	1	11	135	65	44.45	30	32	52	70	40	20,000	-	
1860 01412065	CAT40 -PHC12A -65	2	12	65	4	—	—	30	44.45	45	33	20,000	1.3	
1860 01412105	-105	1	12	105	45	44.45	30	32	52	50	40	20,000	1.6	
1860 01412135	-135	1	12	135	65	44.45	30	32	52	70	40	20,000	1.8	
1860 01413065	CAT40 -PHC13A -65	3	13	65	4	44.45	—	30	50	45	33	20,000	-	
1860 01413105	-105	1	13	105	46	44.45	34	36	52	50	40	20,000	-	
1860 01413135	-135	1	13	135	66	44.45	34	36	52	70	40	20,000	-	
1860 01414065	CAT40 -PHC14A -65	3	14	65	4	44.45	—	30	50	45	33	20,000	1.3	
1860 01414105	-105	1	14	105	46	44.45	34	36	52	50	40	20,000	1.6	
1860 01414135	-135	1	14	135	66	44.45	34	36	52	70	40	20,000	-	
1860 01415065	CAT40 -PHC15A -65	3	15	65	4	44.45	—	30	50	45	33	20,000	-	
1860 01415105	-105	1	15	105	46	44.45	36	38	52	50	40	20,000	-	
1860 01415135	-135	1	15	135	66	44.45	36	38	52	70	40	20,000	-	

Metric Sizes														Unit : Metric
Code	Model	Type	d	L	L1	D	D1	D2	D3	ℓ	ℓ1	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)
1860 01416065	CAT40 -PHC16A -65	3	16	65	4	44.45	—	30	50	45	33	20,000	1.3	L-4T (4mm)
1860 01416105	-105	1	16	105	46	44.45	36	38	52	50	40	20,000	1.7	
1860 01416135	-135	1	16	135	66	44.45	36	38	52	70	40	20,000	2.0	
1860 01420105	CAT40 -PHC20A -105	1	20	105	49	44.45	40	42	46	50	40	20,000	1.6	
1860 01420135	-135	1	20	135	69	44.45	40	42	46	70	40	20,000	1.9	
1860 01425120	CAT40 -PHC25A -120	1	25	120	59	44.45	50	52	62	60	50	16,000	2.2	L-6T (6mm)
1860 01425150	-150	1	25	150	79	44.45	50	52	62	80	50	15,000	2.7	
1860 01432135	CAT40 -PHC32A -135	1	32	135	100	44.45	60	62	—	75	65	12,000	2.8	
1860 01432165	-165	1	32	165	130	44.45	60	62	—	80	65	11,000	3.4	
—	CAT50 -PHC06A -90	3	6	90	30	69.85	24	26	46	34	29	15,000	-	L-4T (4mm)
—	-120	3	6	120	41	69.85	24	26	46	45	29	15,000	-	
—	-150	3	6	150	41	69.85	24	26	46	45	29	15,000	-	
—	CAT50 -PHC07A -90	3	7	90	30	69.85	26	28	46	34	29	15,000	-	
—	-120	3	7	120	41	69.85	26	28	46	45	29	15,000	-	
—	-150	3	7	150	41	69.85	26	28	46	45	29	15,000	-	
—	CAT50 -PHC08A -90	3	8	90	30	69.85	26	28	46	34	29	15,000	-	
—	-120	3	8	120	41	69.85	26	28	46	45	29	15,000	-	
—	-150	3	8	150	41	69.85	26	28	46	45	29	15,000	-	
—	CAT50 -PHC09A -105	3	9	105	44	69.85	28	30	52	50	40	15,000	-	
—	-135	3	9	135	64	69.85	28	30	52	70	40	15,000	-	
—	-165	3	9	165	64	69.85	28	30	52	70	40	15,000	-	
—	CAT50 -PHC10A -105	3	10	105	44	69.85	28	30	52	50	40	15,000	-	
—	-135	3	10	135	64	69.85	28	30	52	70	40	15,000	-	
—	-165	3	10	165	64	69.85	28	30	52	70	40	15,000	-	
—	CAT50 -PHC11A -105	3	11	105	45	69.85	30	32	52	50	40	15,000	-	
—	-135	3	11	135	65	69.85	30	32	52	70	40	15,000	-	
—	-165	3	11	165	65	69.85	30	32	52	70	40	15,000	-	
—	CAT50 -PHC12A -105	3	12	105	45	69.85	30	32	52	50	40	15,000	-	
—	-135	3	12	135	65	69.85	30	32	52	70	40	15,000	-	
—	-165	3	12	165	65	69.85	30	32	52	70	40	15,000	-	
—	CAT50 -PHC13A -105	3	13	105	46	69.85	34	36	52	50	40	15,000	-	
—	-135	3	13	135	66	69.85	34	36	52	70	40	15,000	-	
—	-165	3	13	165	66	69.85	34	36	52	70	40	15,000	-	
—	CAT50 -PHC14A -105	3	14	105	46	69.85	34	36	52	50	40	15,000	-	
—	-135	3	14	135	66	69.85	34	36	52	70	40	15,000	-	
—	-165	3	14	165	66	69.85	34	36	52	70	40	15,000	-	
—	CAT50 -PHC15A -105	3	15	105	46	69.85	36	38	52	50	40	15,000	-	
—	-135	3	15	135	66	69.85	36	38	52	70	40	15,000	-	
—	-165	3	15	165	66	69.85	36	38	52	70	40	15,000	-	
—	CAT50 -PHC16A -105	3	16	105	46	69.85	36	38	52	50	40	15,000	-	
—	-135	3	16	135	66	69.85	36	38	52	70	40	15,000	-	
—	-165	3	16	165	66	69.85	36	38	52	70	40	15,000	-	
—	CAT50 -PHC20A -105	3	20	105	49	69.85	40	42	46	50	40	15,000	-	
—	-135	3	20	135	69	69.85	40	42	46	70	40	15,000	-	
—	-165	3	20	165	69	69.85	40	42	46	70	40	15,000	-	
—	CAT50 -PHC25A -120	3	25	120	59	69.85	50	52	62	64	50	15,000	-	
—	-150	3	25	150	79	69.85	50	52	62	80	50	15,000	-	
—	-165	3	25	165	79	69.85	50	52	62	80	50	15,000	-	
—	CAT50 -PHC32A -135	3	32	135	—	69.85	60	62	—	75	65	12,000	-	
—	-165	3	32	165	—	69.85	60	62	—	80	65	12,000	-	

PHC-A

PHC-S

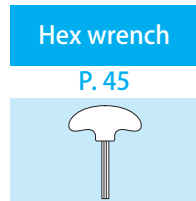
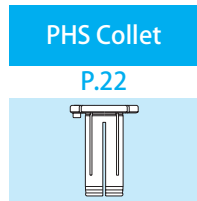
PHZ-S

- Cutting tool shank must be within tolerances specified below.  
 Shank diameter less than 6mm : Within h6 tolerance  
 Shank diameter 6mm and over : Within h7 tolerance  
 \* h6 or 0/-0.01 tolerance is recommended when newly making a cutting tool.
- Do not leave holder with actuating screw tightened when the chuck is empty.
- PHC12A and PHC20A have pin holes for collet with stopper pin on its body.
- Hex-head screws (included) are necessary to plug air hole for center through coolant feed.
- For PHC03A and PHC04A, the stopper bolt is not included. Please order separately (special item).
- For PHC03A and PHC04A, the length adjustment unit cannot be used.

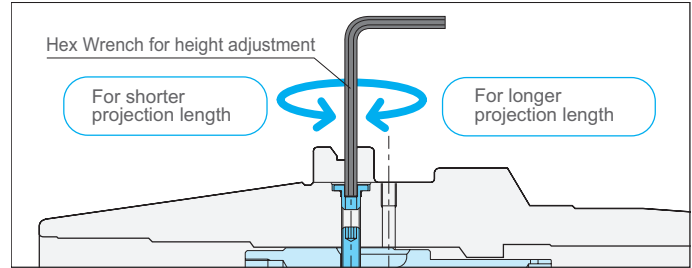
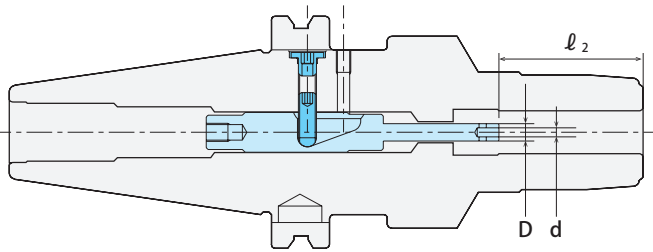
**Ordering Example**

**CAT40 - PHC 12 A - 135**  
 Shank size I.D. (d) Projection length (L)

Tightening torque ( Torque wrench : p.45)		
Model	I.D. (d)	Tightening torque (Nm)
	mm	
PHC-A	06 ~ 08	11 ~ 12
PHC-A	09 ~ 20	7 ~ 8
PHC-A	25, 32	29 ~ 30



## Length adjustment unit



### Inch Sizes

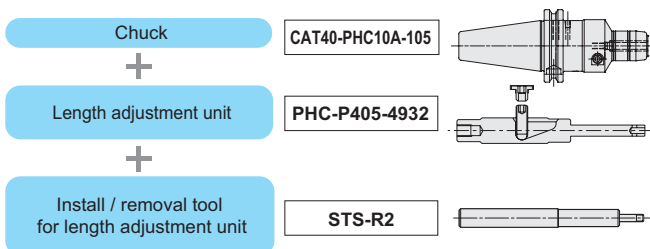
Unit : Metric

Code	Length adjustment unit	Matched chuck	Adjustment range $l_2$	Adjustable amount	Pin end I.D. d	Pin end O.D. D
3934 24045423	PHC-P404-5423	CAT40 -PHC0250A -90	29-34	5	2	3.8
3934 24047334	PHC-P404-7334	-120	29-39	10	2	3.8
3934 24047328	PHC-P404-7328	-120	35-45	10	2	3.8
3934 24045423	PHC-P404-5423	CAT40 -PHC0312A -90	29-34	5	2	3.8
3934 24047334	PHC-P404-7334	-120	29-39	10	2	3.8
3934 24047328	PHC-P404-7328	-120	35-45	10	2	3.8
3934 24054932	PHC-P405-4932	CAT40 -PHC0375A -105	40-50	10	2.5	4.8
3934 24055952	PHC-P405-5952	-135	40-50	10	2.5	4.8
3934 24054952	PHC-P405-4952	-135	50-60	10	2.5	4.8
3934 24054942	PHC-P405-4942	-135	60-70	10	2.5	4.8
3934 24054932	PHC-P405-4932	CAT40 -PHC0500A -105	40-50	10	2.5	4.8
3934 24055952	PHC-P405-5952	-135	40-50	10	2.5	4.8
3934 24054952	PHC-P405-4952	-135	50-60	10	2.5	4.8
3934 24054942	PHC-P405-4942	-135	60-70	10	2.5	4.8
3934 24054932	PHC-P405-4932	CAT40 -PHC0625A -105	40-50	10	2.5	4.8
3934 24055952	PHC-P405-5952	-135	40-50	10	2.5	4.8
3934 24054952	PHC-P405-4952	-135	50-60	10	2.5	4.8
3934 24054942	PHC-P405-4942	-135	60-70	10	2.5	4.8
3934 24054932	PHC-P405-4932	CAT40 -PHC0750A -105	40-50	10	2.5	4.8
3934 24055952	PHC-P405-5952	-135	40-50	10	2.5	4.8
3934 24054952	PHC-P405-4952	-135	50-60	10	2.5	4.8
3934 24054942	PHC-P405-4942	-135	60-70	10	2.5	4.8
3934 24055432	PHC-P405-5432	CAT40 -PHC1000A -120	50-60	10	2.5	4.8
3934 24056452	PHC-P405-6452	-150	50-60	10	2.5	4.8
3934 24055452	PHC-P405-5452	-150	60-70	10	2.5	4.8
3934 24055442	PHC-P405-5442	-150	70-80	10	2.5	4.8
3934 24055432	PHC-P405-5432	CAT40 -PHC1250A -135	65-75	10	2.5	4.8
3934 24056452	PHC-P405-6452	-165	65-75	10	2.5	4.8
3934 24055952	PHC-P405-5952	-165	70-80	10	2.5	4.8

Length adjustment unit can be used for all projection except 45mm.  
Length adjustment unit can be used with BT, CAT and SK shank chucks only.

### Ordering Example

CAT40-PHC10A-105 with adjustment range of 40-50mm  
(Adjustable amount : 10mm).



Shank size	Hex wrench size for height adjustment	Install / removal tool for length adjustment unit
CAT40	2.5mm	STS-R2

Metric Sizes							Unit : Metric	
Code	Length adjustment unit	Adjustment range $\varnothing 2$	Matched chuck	Adjustable amount	Pin end I.D. d	Pin end O.D. D		
3934 24045423	PHC-P404-5423	29-34	CAT40 -PHC06A -90	5	2	3.8		
3934 24047334	PHC-P404-7334	29-39	-120	10	2	3.8		
3934 24047328	PHC-P404-7328	35-45	-120	10	2	3.8		
3934 24045423	PHC-P404-5423	29-34	CAT40 -PHC07A -90	5	2	3.8		
3934 24047334	PHC-P404-7334	29-39	-120	10	2	3.8		
3934 24047328	PHC-P404-7328	35-45	-120	10	2	3.8		
3934 24045423	PHC-P404-5423	29-34	CAT40 -PHC08A -90	5	2	3.8		
3934 24047334	PHC-P404-7334	29-39	-120	10	2	3.8		
3934 24047328	PHC-P404-7328	35-45	-120	10	2	3.8		
3934 24054932	PHC-P405-4932	40-50	CAT40 -PHC09A -105	10	2.5	4.8		
3934 24055952	PHC-P405-5952	40-50	-135	10	2.5	4.8		
3934 24054952	PHC-P405-4952	50-60	-135	10	2.5	4.8		
3934 24054942	PHC-P405-4942	60-70	-135	10	2.5	4.8		
3934 24054932	PHC-P405-4932	40-50	CAT40 -PHC10A -105	10	2.5	4.8		
3934 24055952	PHC-P405-5952	40-50	-135	10	2.5	4.8		
3934 24054952	PHC-P405-4952	50-60	-135	10	2.5	4.8		
3934 24054942	PHC-P405-4942	60-70	-135	10	2.5	4.8		
3934 24054932	PHC-P405-4932	40-50	CAT40 -PHC11A -105	10	2.5	4.8		
3934 24055952	PHC-P405-5952	40-50	-135	10	2.5	4.8		
3934 24054952	PHC-P405-4952	50-60	-135	10	2.5	4.8		
3934 24054942	PHC-P405-4942	60-70	-135	10	2.5	4.8		
3934 24054932	PHC-P405-4932	40-50	CAT40 -PHC12A -105	10	2.5	4.8		
3934 24055952	PHC-P405-5952	40-50	-135	10	2.5	4.8		
3934 24054952	PHC-P405-4952	50-60	-135	10	2.5	4.8		
3934 24054942	PHC-P405-4942	60-70	-135	10	2.5	4.8		
3934 24054932	PHC-P405-4932	40-50	CAT40 -PHC13A -105	10	2.5	4.8		
3934 24055952	PHC-P405-5952	40-50	-135	10	2.5	4.8		
3934 24054952	PHC-P405-4952	50-60	-135	10	2.5	4.8		
3934 24054942	PHC-P405-4942	60-70	-135	10	2.5	4.8		
3934 24054932	PHC-P405-4932	40-50	CAT40 -PHC14A -105	10	2.5	4.8		
3934 24055952	PHC-P405-5952	40-50	-135	10	2.5	4.8		
3934 24054952	PHC-P405-4952	50-60	-135	10	2.5	4.8		
3934 24054942	PHC-P405-4942	60-70	-135	10	2.5	4.8		
3934 24054932	PHC-P405-4932	40-50	CAT40 -PHC15A -105	10	2.5	4.8		
3934 24055952	PHC-P405-5952	40-50	-135	10	2.5	4.8		
3934 24054952	PHC-P405-4952	50-60	-135	10	2.5	4.8		
3934 24054942	PHC-P405-4942	60-70	-135	10	2.5	4.8		
3934 24054932	PHC-P405-4932	40-50	CAT40 -PHC16A -105	10	2.5	4.8		
3934 24055952	PHC-P405-5952	40-50	-135	10	2.5	4.8		
3934 24054952	PHC-P405-4952	50-60	-135	10	2.5	4.8		
3934 24054942	PHC-P405-4942	60-70	-135	10	2.5	4.8		
3934 24054932	PHC-P405-4932	40-50	CAT40 -PHC20A -105	10	2.5	4.8		
3934 24055952	PHC-P405-5952	40-50	-135	10	2.5	4.8		
3934 24054952	PHC-P405-4952	50-60	-135	10	2.5	4.8		
3934 24054942	PHC-P405-4942	60-70	-135	10	2.5	4.8		
3934 24055432	PHC-P405-5432	50-60	CAT40 -PHC25A -120	10	2.5	4.8		
3934 24056452	PHC-P405-6452	50-60	-150	10	2.5	4.8		
3934 24055452	PHC-P405-5452	60-70	-150	10	2.5	4.8		
3934 24055442	PHC-P405-5442	70-80	-150	10	2.5	4.8		
3934 24055432	PHC-P405-5432	65-75	CAT40 -PHC32A -135	10	2.5	4.8		
3934 24056452	PHC-P405-6452	65-75	-165	10	2.5	4.8		
3934 24055952	PHC-P405-5952	70-80	-165	10	2.5	4.8		

PHC-A

PHC-S

PHZ-S

Length adjustment unit can be used for all projection except 45mm.  
 Length adjustment unit can be used with BT, CAT and SK shank chucks only.  
 For PHC03A & PHC04A, the length adjustment unit cannot be used.

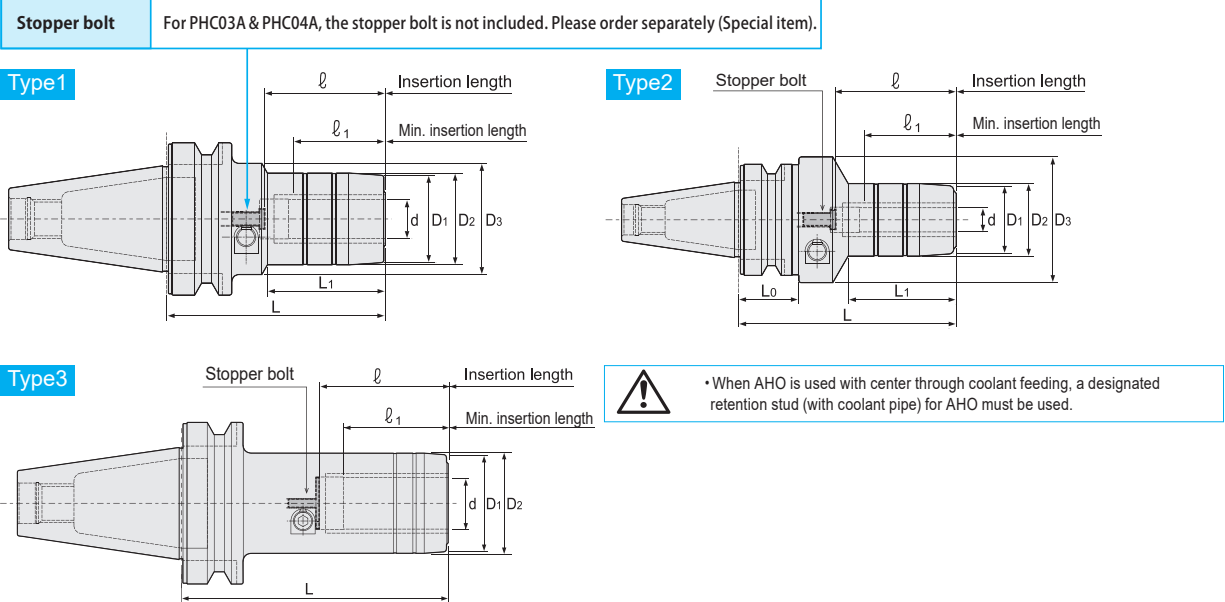


# PHC-A



Power Hydro Chuck

- Hydro chuck with collet holder flexibility. Suitable for high precision cutting.



## Metric Sizes

Unit : Metric

Code	Model	Type	d	L	L <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	L <sub>0</sub>	l	l <sub>1</sub>	Kg	Wrench (Sold separately)
3970 ※ 0830100	WBT-AHO30 or NBT-AHO30 -PHC03A - 60	1	3	60	19.8	—	24	46	—	27	18	0.6	L-4T
3970 ※ 0840100	-PHC04A - 90	1	3	90	44.8	—	24	46	—	49	18	0.7	
3970 ※ 0870100	-PHC04A - 65	1	4	65	25.1	—	25	46	—	29	24	0.6	
3970 ※ 0880100	- 90	1	4	90	45.1	—	25	46	—	49	24	0.7	
3970 ※ 0010100	-PHC06A - 75	1	6	75	30	24	26	46	—	34	29	0.7	
3970 ※ 0020100	-PHC07A - 75	1	7	75	30	26	28	46	—	34	29	0.7	
3970 ※ 0030100	-PHC08A - 75	1	8	75	30	26	28	46	—	34	29	0.7	
3970 ※ 0040100	-PHC09A - 105	2	9	105	44	28	30	52	40	50	40	1.0	
3970 ※ 0050100	-PHC10A - 105	2	10	105	44	28	30	52	40	50	40	1.0	
3970 ※ 0060100	-PHC11A - 105	2	11	105	45	30	32	52	40	50	40	1.1	
3970 ※ 0070100	-PHC12A - 105	2	12	105	45	30	32	52	40	50	40	1.1	
3970 ※ 0080100	-PHC13A - 105	2	13	105	46	34	36	52	40	50	40	1.1	
3970 ※ 0090100	-PHC14A - 105	2	14	105	46	34	36	52	40	50	40	1.1	
3970 ※ 0100100	-PHC15A - 105	2	15	105	46	36	38	52	40	50	40	1.1	
3970 ※ 0110100	-PHC16A - 105	2	16	105	46	36	38	52	40	50	40	1.1	
3970 ※ 0120100	-PHC20A - 90	1	20	90	49	40	42	46	—	50	40	0.9	
3970 ※ 0130100	- 120	1	20	120	69	40	42	46	—	70	40	1.2	
3970 ※ 0850100	WBT-AHO40 or NBT-AHO40 -PHC03A - 65	1	3	65	19.8	—	24	46	—	27	18	1.1	
3970 ※ 0860100	- 90	1	3	90	44.8	—	24	46	—	49	18	1.2	
3970 ※ 0890100	-PHC04A - 70	1	4	70	25.1	—	25	46	—	29	24	1.1	
3970 ※ 0900100	- 90	1	4	90	45.1	—	25	46	—	49	24	1.2	
3970 ※ 0140100	-PHC06A - 75	1	6	75	30	24	26	46	—	34	29	1.1	
3970 ※ 0150100	- 105	1	6	105	41	24	26	46	—	45	29	1.4	
3970 ※ 0160100	-PHC07A - 75	1	7	75	30	26	28	46	—	34	29	1.1	
3970 ※ 0170100	- 105	1	7	105	41	26	28	46	—	45	29	1.4	
3970 ※ 0180100	-PHC08A - 75	1	8	75	30	26	28	46	—	34	29	1.1	
3970 ※ 0190100	- 105	1	8	105	41	26	28	46	—	45	29	1.4	
3970 ※ 0200100	-PHC09A - 90	1	9	90	44	28	30	52	—	50	40	1.3	
3970 ※ 0210100	- 120	1	9	120	64	28	30	52	—	70	40	1.5	
3970 ※ 0220100	-PHC10A - 90	1	10	90	44	28	30	52	—	50	40	1.3	
3970 ※ 0230100	- 120	1	10	120	64	28	30	52	—	70	40	1.5	
3970 ※ 0240100	-PHC11A - 90	1	11	90	45	30	32	52	—	50	40	1.3	
3970 ※ 0250100	- 120	1	11	120	65	30	32	52	—	70	40	1.5	
3970 ※ 0260100	-PHC12A - 90	1	12	90	45	30	32	52	—	50	40	1.3	
3970 ※ 0270100	- 120	1	12	120	65	30	32	52	—	70	40	1.5	
3970 ※ 0280100	-PHC13A - 90	1	13	90	46	34	36	52	—	50	40	1.3	
3970 ※ 0290100	- 120	1	13	120	66	34	36	52	—	70	40	1.6	



## Metric Sizes

Unit : Metric

Code	Model	Type	d	L	L <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	L <sub>0</sub>	ℓ	ℓ <sub>1</sub>	Kg	Wrench (Sold separately)
3970 ※ 0300100	WBT-AHO40 or NBT-AHO40 -PHC14A - 90	1	14	90	46	34	36	52	—	50	40	1.3	L-4T
3970 ※ 0310100	- 120	1	14	120	66	34	36	52	—	70	40	1.6	
3970 ※ 0320100	-PHC15A - 90	1	15	90	46	36	38	52	—	50	40	1.3	
3970 ※ 0330100	- 120	1	15	120	66	36	38	52	—	70	40	1.6	
3970 ※ 0340100	-PHC16A - 90	1	16	90	46	36	38	52	—	50	40	1.3	
3970 ※ 0350100	- 120	1	16	120	66	36	38	52	—	70	40	1.6	
3970 ※ 0360100	-PHC20A - 90	1	20	90	49	40	42	46	—	50	40	1.3	
3970 ※ 0370100	- 120	1	20	120	69	40	42	46	—	70	40	1.6	
3970 ※ 0380100	-PHC25A - 105	1	25	105	59	50	52	62	—	60	50	1.9	
3970 ※ 0390100	- 135	1	25	135	79	50	52	62	—	80	50	2.4	
3970 ※ 0400100	-PHC32A - 120	3	32	120	93	60	62	62	—	75	65	2.4	L-6T
3970 ※ 0410100	- 150	3	32	150	123	60	62	62	—	80	65	3.1	
3970 ※ 0420100	WBT-AHO50 or NBT-AHO50 -PHC06A - 90	1	6	90	30	24	26	46	—	34	29	3.1	L-4T
3970 ※ 0430100	- 120	1	6	120	41	24	26	46	—	45	29	3.4	
3970 ※ 0440100	- 150	1	6	150	41	24	26	46	—	45	29	3.8	
3970 ※ 0450100	-PHC07A - 90	1	7	90	30	26	28	46	—	34	29	3.1	
3970 ※ 0460100	- 120	1	7	120	41	26	28	46	—	45	29	3.5	
3970 ※ 0470100	- 150	1	7	150	41	26	28	46	—	45	29	3.8	
3970 ※ 0480100	-PHC08A - 90	1	8	90	30	26	28	46	—	34	29	3.2	
3970 ※ 0490100	- 120	1	8	120	41	26	28	46	—	45	29	3.5	
3970 ※ 0500100	- 150	1	8	150	41	26	28	46	—	45	29	3.8	
3970 ※ 0510100	-PHC09A - 105	1	9	105	44	28	30	52	—	50	40	3.3	
3970 ※ 0520100	- 135	1	9	135	64	28	30	52	—	70	40	3.5	
3970 ※ 0530100	- 165	1	9	165	64	28	30	52	—	70	40	3.8	
3970 ※ 0540100	-PHC10A - 105	1	10	105	44	28	30	52	—	50	40	3.3	
3970 ※ 0550100	- 135	1	10	135	64	28	30	52	—	70	40	3.5	
3970 ※ 0560100	- 165	1	10	165	64	28	30	52	—	70	40	3.8	
3970 ※ 0570100	-PHC11A - 105	1	11	105	45	30	32	52	—	50	40	3.3	
3970 ※ 0580100	- 135	1	11	135	65	30	32	52	—	70	40	3.6	
3970 ※ 0590100	- 165	1	11	165	65	30	32	52	—	70	40	3.9	
3970 ※ 0600100	-PHC12A - 105	1	12	105	45	30	32	52	—	50	40	3.3	
3970 ※ 0610100	- 135	1	12	135	65	30	32	52	—	70	40	3.6	
3970 ※ 0620100	- 165	1	12	165	65	30	32	52	—	70	40	3.9	
3970 ※ 0630100	-PHC13A - 105	1	13	105	46	34	36	52	—	50	40	3.3	
3970 ※ 0640100	- 135	1	13	135	66	34	36	52	—	70	40	3.6	
3970 ※ 0650100	- 165	1	13	165	66	34	36	52	—	70	40	3.9	
3970 ※ 0660100	-PHC14A - 105	1	14	105	46	34	36	52	—	50	40	3.3	
3970 ※ 0670100	- 135	1	14	135	66	34	36	52	—	70	40	3.6	
3970 ※ 0680100	- 165	1	14	165	66	34	36	52	—	70	40	3.9	
3970 ※ 0690100	-PHC15A - 105	1	15	105	46	36	38	52	—	50	40	3.4	
3970 ※ 0700100	- 135	1	15	135	66	36	38	52	—	70	40	3.7	
3970 ※ 0710100	- 165	1	15	165	66	36	38	52	—	70	40	4.0	
3970 ※ 0720100	-PHC16A - 105	1	16	105	46	36	38	52	—	50	40	3.4	
3970 ※ 0730100	- 135	1	16	135	66	36	38	52	—	70	40	3.7	
3970 ※ 0740100	- 165	1	16	165	66	36	38	52	—	70	40	4.0	
3970 ※ 0750100	-PHC20A - 105	1	20	105	49	40	42	46	—	50	40	3.4	
3970 ※ 0760100	- 135	1	20	135	69	40	42	46	—	70	40	3.7	
3970 ※ 0770100	- 165	1	20	165	69	40	42	46	—	70	40	3.9	
3970 ※ 0780100	-PHC25A - 120	1	25	120	59	50	52	62	—	64	50	3.9	
3970 ※ 0790100	- 150	1	25	150	79	50	52	62	—	80	50	4.4	
3970 ※ 0800100	- 165	1	25	165	79	50	52	62	—	80	50	4.8	
3970 ※ 0810100	-PHC32A - 135	3	32	135	—	60	62	—	—	75	65	4.5	
3970 ※ 0820100	- 165	3	32	165	—	60	62	—	—	80	65	5.1	

Please replace ※ in the code with 0 for NBT-AHO and 6 for WBT-AHO.

- Cutting tool shank must be within tolerances specified below.  
Shank diameter less than 6mm : Within h6 tolerance  
Shank diameter 6mm and over : Within h7 tolerance  
\* h6 or 0/-0.01 tolerance is recommended when newly making a cutting tool.
- PHC12A and PHC20A have pin holes for collet with stopper pin on its body.

PHS Collet

Hex wrench

P.22

P.45



### Ordering Example

For standard BT two-face contact spindle

**WBT-AHO50 - PHC 12 A - 105**  
Shank size I.D. (d) Projection length (L)

### Ordering Example

For NT's two-face contact BT spindle

**NBT-AHO50 - PHC 12 A - 105**  
Shank size I.D. (d) Projection length (L)

### Tightening torque ( Torque wrench : p.45 )

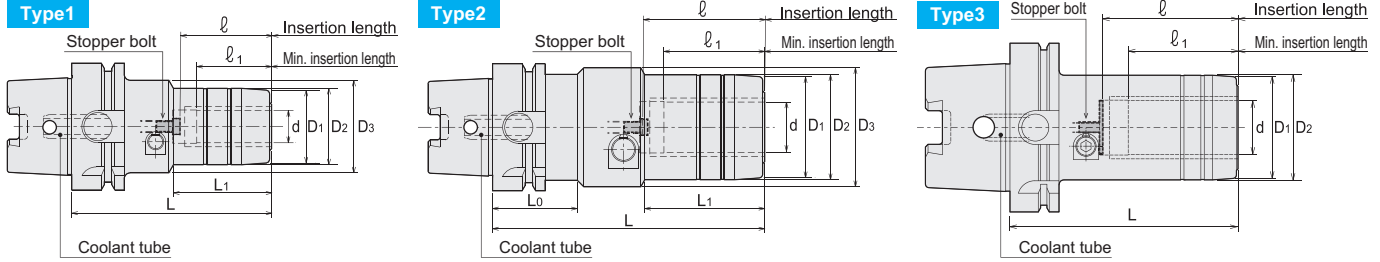
Model	I.D. (d)	Tightening torque (Nm)
	mm	
PHC-A	06 ~ 08	11 ~ 12
PHC-A	09 ~ 20	7 ~ 8
PHC-A	25, 32	29 ~ 30

# PHC-A



## Power Hydro Chuck

● Hydro chuck with collet holder flexibility. Suitable for high precision cutting.



For PHC03A and PHC04A, the stopper bolt is not included. Please order separately (special item).

● Coolant tube is included.

### Inch Sizes

Unit : Inch

Code	Model	Type	d	L	L1	D1	D2	D3	L0	ℓ	ℓ1	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)	
5730 75308075	HSK63A -PHC0250A - 75 -H	1	0.25	2.953	1.19	0.945	1.024	1.811	—	1.338	1.142	20,500	1	L-4T (4mm)	
5730 75308120	- 120 -H	1	0.25	4.725	1.624	0.945	1.024	1.811	—	1.771	1.142	20,500	1.5		
5730 75310075	HSK63A -PHC0312A - 75 -H	1	0.312	2.953	1.213	1.024	1.103	1.811	—	1.338	1.142	20,500	1		
5730 75310120	- 120 -H	1	0.312	4.725	1.646	1.024	1.103	1.811	—	1.771	1.142	20,500	1.5		
5730 75312090	HSK63A -PHC0375A - 90 -H	1	0.375	3.544	1.758	1.103	1.182	2.048	—	1.968	1.575	20,500	1.2		
5730 75312120	- 120 -H	1	0.375	4.725	2.546	1.103	1.182	2.048	—	2.755	1.575	20,500	1.4		
5730 75316090	HSK63A -PHC0500A - 90 -H	1	0.5	3.544	1.826	1.339	1.418	2.048	—	1.968	1.575	20,500	1.2		
5730 75316120	- 120 -H	1	0.5	4.725	2.614	1.339	1.418	2.048	—	2.755	1.575	20,500	1.5		
5730 75320090	HSK63A -PHC0625A - 90 -H	1	0.625	3.544	1.849	1.418	1.496	2.048	—	1.968	1.575	20,500	1.3		
5730 75320120	- 120 -H	1	0.625	4.725	2.637	1.418	1.496	2.048	—	2.755	1.575	20,500	1.6		
5730 75324090	HSK63A -PHC0750A - 90 -H	1	0.75	3.544	1.963	1.575	1.654	1.811	—	1.968	1.575	20,500	1.3		
5730 75324120	- 120 -H	1	0.75	4.725	2.75	1.575	1.654	1.811	—	2.755	1.575	20,500	1.5		
5730 75332135	HSK63A -PHC1000A - 135 -H	2	1	5.315	2.342	1.969	2.048	2.323	1.654	2.362	1.969	16,000	2.3		L-6T (6mm)
5730 75332150	- 150 -H	2	1	5.906	3.13	1.969	2.048	2.323	1.654	3.149	1.969	16,000	2.5		
5730 75340135	HSK63A -PHC1250A - 135 -H	2	1.25	5.315	1.668	2.363	2.441	3.347	1.654	3.149	2.56	12,000	3.1		
5730 75340150	- 150 -H	2	1.25	5.906	—	2.363	2.441	—	1.654	3.149	2.56	12,000	2.9		
—	HSK100A -PHC0250A - 90 -H	1	0.25	3.544	1.19	0.945	1.024	1.811	—	1.338	1.142	12,500	-	L-4T (4mm)	
—	- 120 -H	1	0.25	4.725	1.624	0.945	1.024	1.811	—	1.771	1.142	12,500	-		
—	- 150 -H	1	0.25	5.906	1.624	0.945	1.024	1.811	—	1.771	1.142	12,500	-		
—	HSK100A -PHC0375A - 105 -H	1	0.375	4.134	1.758	1.103	1.182	2.048	—	1.968	1.575	12,500	-		
—	- 135 -H	1	0.375	5.315	2.546	1.103	1.182	2.048	—	2.755	1.575	12,500	-		
—	- 165 -H	1	0.375	6.496	2.546	1.103	1.182	2.048	—	2.755	1.575	12,500	-		
—	HSK100A -PHC0500A - 105 -H	1	0.5	4.134	1.826	1.339	1.418	2.048	—	1.968	1.575	12,500	-		
—	- 135 -H	1	0.5	5.315	2.614	1.339	1.418	2.048	—	2.755	1.575	12,500	-		
—	- 165 -H	1	0.5	6.496	2.614	1.339	1.418	2.048	—	2.755	1.575	12,500	-		
—	HSK100A -PHC0625A - 105 -H	1	0.625	4.134	1.849	1.418	1.496	2.048	—	1.968	1.575	12,500	-		
—	- 135 -H	1	0.625	5.315	2.637	1.418	1.496	2.048	—	2.755	1.575	12,500	-		
—	- 165 -H	1	0.625	6.496	2.637	1.418	1.496	2.048	—	2.755	1.575	12,500	-		
—	HSK100A -PHC0750A - 105 -H	1	0.75	4.134	1.963	1.575	1.654	1.811	—	1.968	1.575	12,500	-		
—	- 135 -H	1	0.75	5.315	2.75	1.575	1.654	1.811	—	2.755	1.575	12,500	-		
—	- 165 -H	1	0.75	6.496	2.75	1.575	1.654	1.811	—	2.755	1.575	12,500	-		
—	HSK100A -PHC1000A - 120 -H	1	1	4.725	2.347	1.969	2.048	2.441	—	2.519	1.969	12,500	-	L-6T (6mm)	
—	- 165 -H	1	1	6.496	3.135	1.969	2.048	2.441	—	3.149	1.969	12,500	-		
—	HSK100A -PHC1250A - 135 -H	3	1.25	5.315	—	2.363	2.441	—	—	3.149	2.56	12,000	-		
—	- 165 -H	3	1.25	6.496	—	2.363	2.441	—	—	3.149	2.56	12,000	-		

## Metric Sizes

Unit : Metric

Code	Model	Type	d	L	L <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	L <sub>0</sub>	ℓ	ℓ <sub>1</sub>	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)
5730 13203075	HSK40A -PHC03A - 75	3	3	75	19.8	—	24	46	35	27	18	30,000	0.6	L-4T
5730 13204080	HSK40A -PHC04A - 80	3	4	80	25.1	—	25	46	35	29	24	30,000	0.6	
5730 13206090	HSK40A -PHC06A - 90	2	6	90	30	24	26	46	35	34	29	28,000	0.7	
5730 13207090	HSK40A -PHC07A - 90	2	7	90	30	26	28	46	35	34	29	28,000	0.7	
5730 13208090	HSK40A -PHC08A - 90	2	8	90	30	26	28	46	35	34	29	27,000	0.7	
5730 13209105	HSK40A -PHC09A - 105	2	9	105	44	28	30	52	35	50	40	26,000	0.9	
5730 13210105	HSK40A -PHC10A - 105	2	10	105	44	28	30	52	35	50	40	26,000	0.9	
5730 13211105	HSK40A -PHC11A - 105	2	11	105	45	30	32	52	35	50	40	25,000	0.9	
5730 13212105	HSK40A -PHC12A - 105	2	12	105	45	30	32	52	35	50	40	25,000	0.9	
5730 13213105	HSK40A -PHC13A - 105	2	13	105	46	34	36	52	35	50	40	25,000	1.0	
5730 13214105	HSK40A -PHC14A - 105	2	14	105	46	34	36	52	35	50	40	25,000	1.0	
5730 13215105	HSK40A -PHC15A - 105	2	15	105	46	36	38	52	35	50	40	25,000	1.0	
5730 13216105	HSK40A -PHC16A - 105	2	16	105	46	36	38	52	35	50	40	24,000	1.0	
5730 13220105	HSK40A -PHC20A - 105	2	20	105	49	40	42	46	35	50	40	20,000	1.0	
5730 13225120	HSK40A -PHC25A - 120	2	25	120	59	50	52	59	35	60	50	16,000	1.5	
5730 14203080	HSK50A -PHC03A - 80	3	3	80	19.8	—	24	46	42	27	18	25,000	0.9	
5730 14204085	HSK50A -PHC04A - 85	3	4	85	25.1	—	25	46	42	29	24	25,000	0.9	
5730 14206090	HSK50A -PHC06A - 90	2	6	90	30	24	26	46	41	34	29	25,000	0.9	
5730 14207090	HSK50A -PHC07A - 90	2	7	90	30	26	28	46	41	34	29	25,000	0.9	
5730 14208090	HSK50A -PHC08A - 90	2	8	90	30	26	28	46	41	34	29	25,000	0.9	
5730 14209105	HSK50A -PHC09A - 105	2	9	105	44	28	30	52	41	50	40	25,000	1.0	
5730 14210105	HSK50A -PHC10A - 105	2	10	105	44	28	30	52	41	50	40	25,000	1.0	
5730 14211105	HSK50A -PHC11A - 105	2	11	105	45	30	32	52	41	50	40	25,000	1.1	
5730 14212105	HSK50A -PHC12A - 105	2	12	105	45	30	32	52	41	50	40	25,000	1.1	
5730 14213105	HSK50A -PHC13A - 105	2	13	105	46	34	36	52	41	50	40	25,000	1.1	
5730 14214105	HSK50A -PHC14A - 105	2	14	105	46	34	36	52	41	50	40	25,000	1.1	
5730 14215105	HSK50A -PHC15A - 105	2	15	105	46	36	38	52	41	50	40	25,000	1.2	
5730 14216105	HSK50A -PHC16A - 105	2	16	105	46	36	38	52	41	50	40	25,000	1.1	
5730 14220105	HSK50A -PHC20A - 105	2	20	105	49	40	42	46	41	50	40	20,000	1.1	
5730 14225135	HSK50A -PHC25A - 135	2	25	135	59	50	52	59	42	60	50	16,000	1.9	
5730 75203065	HSK63A -PHC03A - 65 -H	1	3	65	19.8	—	24	46	—	27	18	20,500	1.0	
5730 75204070	HSK63A -PHC04A - 70 -H	1	4	70	25.1	—	25	46	—	29	24	20,500	1.0	
5730 75206075	HSK63A -PHC06A - 75 -H	1	6	75	30	24	26	46	—	34	29	20,500	1.0	
5730 75206120	- 120 -H	1	6	120	41	24	26	46	—	45	29	20,500	1.5	
5730 75207075	HSK63A -PHC07A - 75 -H	1	7	75	30	26	28	46	—	34	29	20,500	1.0	
5730 75207120	- 120 -H	1	7	120	41	26	28	46	—	45	29	20,500	1.5	
5730 75208075	HSK63A -PHC08A - 75 -H	1	8	75	30	26	28	46	—	34	29	20,500	1.0	
5730 75208120	- 120 -H	1	8	120	41	26	28	46	—	45	29	20,500	1.5	
5730 75209090	HSK63A -PHC09A - 90 -H	1	9	90	44	28	30	52	—	50	40	20,500	1.2	
5730 75209120	- 120 -H	1	9	120	64	28	30	52	—	70	40	20,500	1.4	
5730 75210090	HSK63A -PHC10A - 90 -H	1	10	90	44	28	30	52	—	50	40	20,500	1.2	
5730 75210120	- 120 -H	1	10	120	64	28	30	52	—	70	40	20,500	1.4	
5730 75211090	HSK63A -PHC11A - 90 -H	1	11	90	45	30	32	52	—	50	40	20,500	1.2	
5730 75211120	- 120 -H	1	11	120	65	30	32	52	—	70	40	20,500	1.4	
5730 75212090	HSK63A -PHC12A - 90 -H	1	12	90	45	30	32	52	—	50	40	20,500	1.2	
5730 75212120	- 120 -H	1	12	120	65	30	32	52	—	70	40	20,500	1.4	
5730 75213090	HSK63A -PHC13A - 90 -H	1	13	90	46	34	36	52	—	50	40	20,500	1.2	
5730 75213120	- 120 -H	1	13	120	66	34	36	52	—	70	40	20,500	1.5	
5730 75214090	HSK63A -PHC14A - 90 -H	1	14	90	46	34	36	52	—	50	40	20,500	1.2	
5730 75214120	- 120 -H	1	14	120	66	34	36	52	—	70	40	20,500	1.5	
5730 75215090	HSK63A -PHC15A - 90 -H	1	15	90	46	36	38	52	—	50	40	20,500	1.3	
5730 75215120	- 120 -H	1	15	120	66	36	38	52	—	70	40	20,500	1.6	
5730 75216090	HSK63A -PHC16A - 90 -H	1	16	90	46	36	38	52	—	50	40	20,500	1.3	
5730 75216120	- 120 -H	1	16	120	66	36	38	52	—	70	40	20,500	1.6	
5730 75220090	HSK63A -PHC20A - 90 -H	1	20	90	49	40	42	46	—	50	40	20,500	1.3	
5730 75220120	- 120 -H	1	20	120	69	40	42	46	—	70	40	20,500	1.5	
5730 75225135	HSK63A -PHC25A - 135 -H	2	25	135	59	50	52	59	42	60	50	16,000	2.3	
5730 75225150	- 150 -H	2	25	150	79	50	52	59	42	80	50	16,000	2.5	
5730 75232135	HSK63A -PHC32A - 135 -H	2	32	135	42	60	62	85	42	80	65	12,000	3.1	
5730 75232150	- 150 -H	2	32	150	108	60	62	85	42	80	65	12,000	2.9	

- Cutting tool shank must be within tolerances specified below.  
Shank diameter less than 6mm : Within h6 tolerance  
Shank diameter 6mm and over : Within h7 tolerance  
\* h6 or 0/-0.01 tolerance is recommended when newly making a cutting tool.
- PHC12A, PHC20A, PHC0500A and PHC0750A have pin holes for collet with stopper pin on its body.
- Permissible speed is greatly affected by the stiffness of the machine spindle and the balance of the cutting tool. Gradually increase from a low speed, and use at the proper speed.

Model	I.D. (d)		Tightening torque (Nm)
	mm	inch	
PHC-A	06 ~ 08	0.250 ~ 0.312	11 ~ 12
PHC-A	09 ~ 20	0.375 ~ 0.750	7 ~ 8
PHC-A	25, 32	1.000, 1.250	29 ~ 30

PHS Collet

Hex wrench

P.22

P.45



### Ordering Example

Without manual clamp holes (HSK40A, HSK50A)

**HSK40A - PHC 06 A - 90**  
Shank size                      I.D. (d)                      Projection length (L)

### Ordering Example

With manual clamp holes (HSK63A, HSK100A)

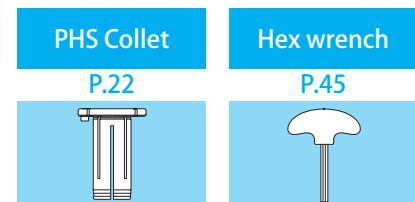
**HSK63A - PHC 06 A - 75 - H**  
Shank size                      I.D. (d)                      Projection length (L)                      With manual clamping hole

## Metric Sizes

Unit : Metric

Code	Model	Type	d	L	L <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	L <sub>0</sub>	ℓ	ℓ <sub>1</sub>	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)
5730 77206090	HSK100A -PHC06A - 90 -H	1	6	90	30	24	26	46	—	34	29	12,500	2.6	L-4T
5730 77206120	- 120 -H	1	6	120	41	24	26	46	—	45	29	12,500	2.8	
5730 77206150	- 150 -H	1	6	150	41	24	26	46	—	45	29	12,500	3.2	
5730 77207090	HSK100A -PHC07A - 90 -H	1	7	90	30	26	28	46	—	34	29	12,500	2.6	
5730 77207120	- 120 -H	1	7	120	41	26	28	46	—	45	29	12,500	2.8	
5730 77207150	- 150 -H	1	7	150	41	26	28	46	—	45	29	12,500	3.2	
5730 77208090	HSK100A -PHC08A - 90 -H	1	8	90	30	26	28	46	—	34	29	12,500	2.6	
5730 77208120	- 120 -H	1	8	120	41	26	28	46	—	45	29	12,500	2.8	
5730 77208150	- 150 -H	1	8	150	41	26	28	46	—	45	29	12,500	3.2	
5730 77209105	HSK100A -PHC09A - 105 -H	1	9	105	44	28	30	52	—	50	40	12,500	2.7	
5730 77209135	- 135 -H	1	9	135	64	28	30	52	—	70	40	12,500	3.0	
5730 77209165	- 165 -H	1	9	165	64	28	30	52	—	70	40	12,500	3.5	
5730 77210105	HSK100A -PHC10A - 105 -H	1	10	105	44	28	30	52	—	50	40	12,500	2.7	
5730 77210135	- 135 -H	1	10	135	64	28	30	52	—	70	40	12,500	3.0	
5730 77210165	- 165 -H	1	10	165	64	28	30	52	—	70	40	12,500	3.5	
5730 77211105	HSK100A -PHC11A - 105 -H	1	11	105	45	30	32	52	—	50	40	12,500	2.7	
5730 77211135	- 135 -H	1	11	135	65	30	32	52	—	70	40	12,500	3.0	
5730 77211165	- 165 -H	1	11	165	65	30	32	52	—	70	40	12,500	3.5	
5730 77212105	HSK100A -PHC12A - 105 -H	1	12	105	45	30	32	52	—	50	40	12,500	2.7	
5730 77212135	- 135 -H	1	12	135	65	30	32	52	—	70	40	12,500	3.0	
5730 77212165	- 165 -H	1	12	165	65	30	32	52	—	70	40	12,500	3.5	
5730 77213105	HSK100A -PHC13A - 105 -H	1	13	105	46	34	36	52	—	50	40	12,500	2.8	
5730 77213135	- 135 -H	1	13	135	66	34	36	52	—	70	40	12,500	3.1	
5730 77213165	- 165 -H	1	13	165	66	34	36	52	—	70	40	12,500	3.5	
5730 77214105	HSK100A -PHC14A - 105 -H	1	14	105	46	34	36	52	—	50	40	12,500	2.8	
5730 77214135	- 135 -H	1	14	135	66	34	36	52	—	70	40	12,500	3.1	
5730 77214165	- 165 -H	1	14	165	66	34	36	52	—	70	40	12,500	3.5	
5730 77215105	HSK100A -PHC15A - 105 -H	1	15	105	46	36	38	52	—	50	40	12,500	2.8	
5730 77215135	- 135 -H	1	15	135	66	36	38	52	—	70	40	12,500	3.1	
5730 77215165	- 165 -H	1	15	165	66	36	38	52	—	70	40	12,500	3.6	
5730 77216105	HSK100A -PHC16A - 105 -H	1	16	105	46	36	38	52	—	50	40	12,500	2.8	
5730 77216135	- 135 -H	1	16	135	66	36	38	52	—	70	40	12,500	3.1	
5730 77216165	- 165 -H	1	16	165	66	36	38	52	—	70	40	12,500	3.6	
5730 77220105	HSK100A -PHC20A - 105 -H	1	20	105	49	40	42	46	—	50	40	12,500	2.8	
5730 77220135	- 135 -H	1	20	135	69	40	42	46	—	70	40	12,500	3.1	
5730 77220165	- 165 -H	1	20	165	69	40	42	46	—	70	40	12,500	3.6	
5730 77225120	HSK100A -PHC25A - 120 -H	1	25	120	59	50	52	62	—	64	50	12,500	3.4	
5730 77225165	- 165 -H	1	25	165	79	50	52	62	—	80	50	12,500	4.3	
5730 77232135	HSK100A -PHC32A - 135 -H	3	32	135	—	60	62	—	—	80	65	12,000	3.9	L-6T
5730 77232165	- 165 -H	3	32	165	—	60	62	—	—	80	65	12,000	4.6	

- Cutting tool shank must be within tolerances specified below.  
Shank diameter less than 6mm : Within h6 tolerance  
Shank diameter 6mm and over : Within h7 tolerance  
\* h6 or 0/-0.01 tolerance is recommended when newly making a cutting tool.
- PHC12A and PHC20A have pin holes for collet with stopper pin on its body.
- Permissible speed is greatly affected by the stiffness of the machine spindle and the balance of the cutting tool. Gradually increase from a low speed, and use at the proper speed.



### Ordering Example

With manual clamp holes (HSK63A, HSK100A)

**HSK100A - PHC 06 A - 90 - H**  
 Shank size                      I.D. (d)                      Projection length (L)                      With manual clamping hole

Tightening torque ( Torque wrench : p.45 )			
Model	I.D. (d)		Tightening torque (Nm)
	mm	inch	
PHC·A	06 ~ 08	0.250 ~ 0.312	11 ~ 12
PHC·A	09 ~ 20	0.375 ~ 0.750	7 ~ 8
PHC·A	25, 32	1.000, 1.250	29 ~ 30

# PHC-A

Power Hydro Chuck

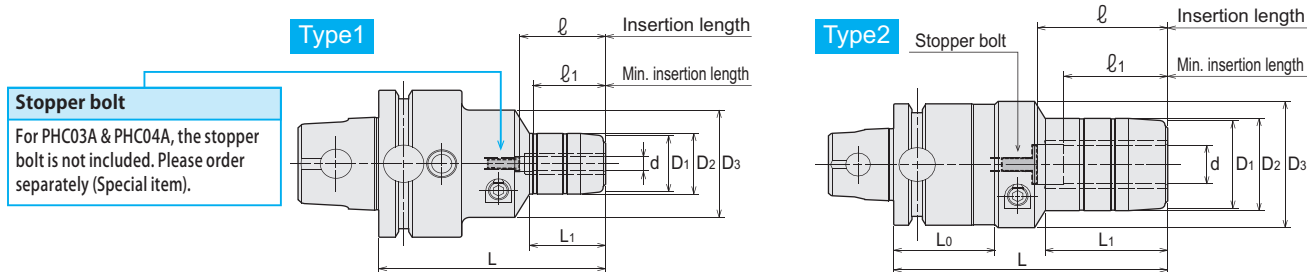


PHC-A

PHC-S

PHZ-S

- Hydro chuck with collet holder flexibility. Suitable for high precision cutting.

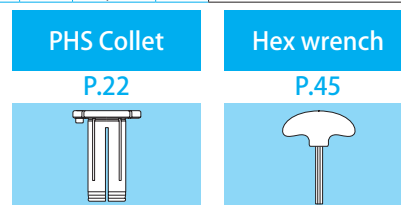


## Metric Sizes Unit : Metric

Code	Model	Type	d	L	L <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	L <sub>0</sub>	ℓ	ℓ <sub>1</sub>	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)
1390 11103070	UTS5040 -PHC03A - 70 -H	1	3	70	19.8	—	24	46	—	27	18	25,000	0.8	L-4T
1390 11104075	UTS5040 -PHC04A - 75 -H	1	4	75	25.1	—	25	46	—	29	24	25,000	0.8	
1390 11106090	UTS5040 -PHC06A - 90 -H	1	6	90	30	24	26	46	—	34	29	25,000	1.0	
1390 11107090	UTS5040 -PHC07A - 90 -H	1	7	90	30	26	28	46	—	34	29	25,000	1.0	
1390 11108090	UTS5040 -PHC08A - 90 -H	1	8	90	30	26	28	46	—	34	29	25,000	1.0	
1390 11109105	UTS5040 -PHC09A - 105 -H	2	9	105	44	28	30	52	38	50	40	24,000	1.1	
1390 11110105	UTS5040 -PHC10A - 105 -H	2	10	105	44	28	30	52	38	50	40	23,000	1.1	
1390 11111105	UTS5040 -PHC11A - 105 -H	2	11	105	45	30	32	52	38	50	40	23,000	1.1	
1390 11112105	UTS5040 -PHC12A - 105 -H	2	12	105	45	30	32	52	38	50	40	23,000	1.1	
1390 11113105	UTS5040 -PHC13A - 105 -H	2	13	105	46	34	36	52	38	50	40	22,000	1.2	
1390 11114105	UTS5040 -PHC14A - 105 -H	2	14	105	46	34	36	52	38	50	40	22,000	1.2	
1390 11115105	UTS5040 -PHC15A - 105 -H	2	15	105	46	36	38	52	38	50	40	21,000	1.2	
1390 11116105	UTS5040 -PHC16A - 105 -H	2	16	105	46	36	38	52	38	50	40	20,000	1.2	
1390 11120105	UTS5040 -PHC20A - 105 -H	1	20	105	49	40	42	46	—	50	40	19,000	1.2	
1390 1※203075	UTS6350 -PHC03A - 75	1	3	75	19.8	—	24	46	—	27	18	20,000	1.2	L-4T
1390 1※204080	UTS6350 -PHC04A - 80	1	4	80	25.1	—	25	46	—	29	24	20,000	1.2	
1390 1※206090	UTS6350 -PHC06A - 90	1	6	90	30	24	26	46	—	34	29	20,000	1.3	
1390 1※207090	UTS6350 -PHC07A - 90	1	7	90	30	26	28	46	—	34	29	20,000	1.3	
1390 1※208090	UTS6350 -PHC08A - 90	1	8	90	30	26	28	46	—	34	29	20,000	1.3	
1390 1※209105	UTS6350 -PHC09A - 105	1	9	105	44	28	30	52	—	50	40	20,000	1.5	
1390 1※210105	UTS6350 -PHC10A - 105	1	10	105	44	28	30	52	—	50	40	20,000	1.5	
1390 1※211105	UTS6350 -PHC11A - 105	1	11	105	45	30	32	52	—	50	40	20,000	1.5	
1390 1※212105	UTS6350 -PHC12A - 105	1	12	105	45	30	32	52	—	50	40	20,000	1.5	
1390 1※213105	UTS6350 -PHC13A - 105	1	13	105	46	34	36	52	—	50	40	20,000	1.5	
1390 1※214105	UTS6350 -PHC14A - 105	1	14	105	46	34	36	52	—	50	40	20,000	1.5	
1390 1※215105	UTS6350 -PHC15A - 105	1	15	105	46	36	38	52	—	50	40	20,000	1.6	
1390 1※216105	UTS6350 -PHC16A - 105	1	16	105	46	36	38	52	—	50	40	20,000	1.6	
1390 1※220105	UTS6350 -PHC20A - 105	1	20	105	49	40	42	46	—	50	40	20,000	1.5	
1390 1※225120	UTS6350 -PHC25A - 120	1	25	120	59	50	52	59	—	60	50	16,000	2.1	L-6T

When placing an order, please specify high or low pressure.  
For high pressure type, please add (-H) on end of the description.

- Cutting tool shank must be within tolerances specified below.  
Shank diameter less than 6mm : Within h6 tolerance  
Shank diameter 6mm and over : Within h7 tolerance  
\* h6 or 0/-0.01 tolerance is recommended when newly making a cutting tool.
- PHC12A and PHC20A have pin holes for collet with stopper pin on its body.
- Only high pressure type is available for UTS5040.
- Permissible speed is greatly affected by the stiffness of the machine spindle and the balance of the cutting tool. Gradually increase from a low speed, and use at the proper speed.



Tightening torque ( Torque wrench : p.45 )		
Model	I.D. (d)	Tightening torque (Nm)
	mm	
PHC-A	06 ~ 08	11 ~ 12
PHC-A	09 ~ 20	7 ~ 8
PHC-A	25, 32	29 ~ 30

### Ordering Example

Low pressure type

0 ~ 1.0MPa (UTS10080 : 0 ~ 2.0MPa)

**UTS6350 - PHC 12 A - 105**

Shank size

I.D. (d)

Projection length (L)

### Ordering Example

High pressure type

1.1 ~ 7.0MPa (UTS10080 : 2.1 ~ 7.0MPa)

**UTS6350 - PHC 12 A - 105 - H**

Shank size

I.D. (d)

Projection length (L)

High pressure type

PHC-A

PHC-S

PHZ-S

## Collet with stopper pin

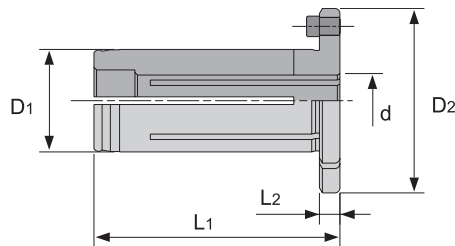
### Minimum insertion length for PHS

Collet I.D. $\square$ Metric	Collet I.D. $\square$ Inch	Min. insertion length Metric(Inch)
3, 4	1/8	25 (0.984)
5	3/16	30 (1.181)
6, 7	5/16	34 (1.339)
8, 9	7/16	38 (1.496)
10, 11	9/16, 1/4	42 (1.654)
12, 13, 14, 15, 16	3/8, 1/2, 5/8	50 (1.969)

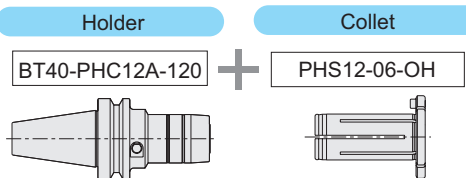
### $\square$ Collet I.D. $\square$ Model number

$\square$	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8
$\square$	0125	0187	0250	0312	0375	0438	0500	0562	0625

### For tool with coolant hole



**Ordering Example** To hold  $\phi 6$  cutting tool with BT40-PHC12A-120



The collet with stopper pin can be used with PHC12A, PHC20A, PHC0500A and PHC0750A.

The collet with stopper pin can be used with the length adjustment unit.

#### $\square$ Metric , $\square$ Metric

Unit : Metric

Model	D1	D2	L1	L2	$\square$
PHS12- $\square$ -OH	12	26	48	4	3, 4, 5, 6, 7, 8, 9, 10
PHS20- $\square$ -OH	20	36	48	4	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

#### $\square$ Metric , $\square$ Inch

Unit : Inch

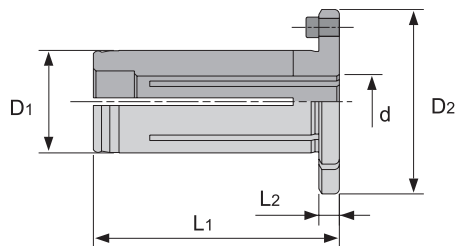
Model	D1	D2	L1	L2	$\square$
PHS12- $\square$ -OH	0.472	1.024	1.890	0.158	1/8, 3/16, 1/4, 5/16, 3/8
PHS20- $\square$ -OH	0.787	1.418	1.890	0.158	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8

#### $\square$ Inch , $\square$ Inch

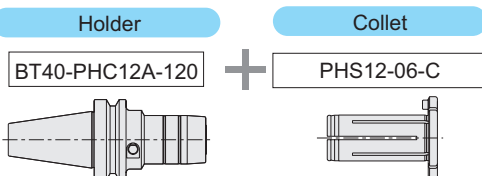
Unit : Inch

Model	D1	D2	L1	L2	$\square$
PHS0500- $\square$ -OH	0.500	1.024	1.890	1.158	1/8, 3/16, 1/4, 5/16, 3/8
PHS0750- $\square$ -OH	0.750	1.418	1.890	0.158	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8

### For tool without coolant hole



**Ordering Example** To hold  $\phi 6$  cutting tool using collet through coolant feed with BT40-PHC12A-120



The collet with stopper pin can be used with PHC12A, PHC20A, PHC0500A and PHC0750A.

The collet with stopper pin can be used with the length adjustment unit.

#### $\square$ Metric , $\square$ Metric

Unit : Metric

Model	D1	D2	L1	L2	$\square$
PHS12- $\square$ -C	12	26	48	4	3, 4, 5, 6, 7, 8, 9
PHS20- $\square$ -C	20	36	48	4	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

#### $\square$ Metric , $\square$ Inch

Unit : Inch

Model	D1	D2	L1	L2	$\square$
PHS12- $\square$ -C	0.472	1.024	1.890	0.158	1/8, 3/16, 1/4, 5/16
PHS20- $\square$ -C	0.787	1.418	1.890	0.158	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8

#### $\square$ Inch , $\square$ Inch

Unit : Inch

Model	D1	D2	L1	L2	$\square$
PHS0500- $\square$ -C	0.500	1.024	1.890	1.158	1/8, 3/16, 1/4, 5/16, 3/8
PHS0750- $\square$ -C	0.750	1.418	1.890	0.158	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8



# Slim Hydro Chuck - PHC-S

Perfect choice for tight space applications, such as endmill finishing, drilling and reaming on 5-axis machines.

## ● Easy! Quick! Simple Clamping!!

Simple one hand clamping operation with a hex wrench.



No-slip grip

- Available in metric and inch sizes.  
Inch :  $\phi 0250''$  -  $\phi 0500''$   
Metric :  $\phi 6$  - 12, 16, 20, 25mm

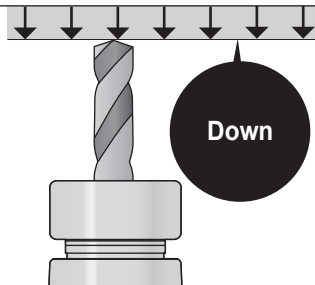
## Tool pre-set without height offset

Slim Hydro Chuck



Sustained

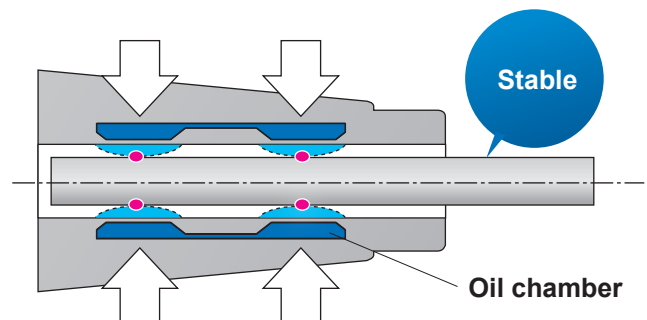
Ordinary Collet Holder



Down

## "Dual clamping points system" for stable and high precision clamping.

Dual Clamping System



Stable

Oil chamber

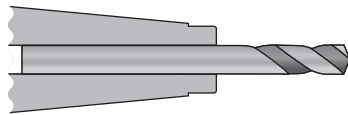
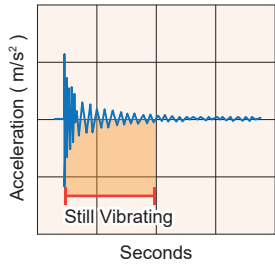


## Anti-vibration effect

High pressured oil chamber around the chucking sleeve absorbs cutting vibrations.

### Slim Type Shrink Fit Chuck

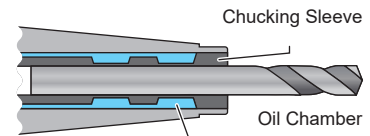
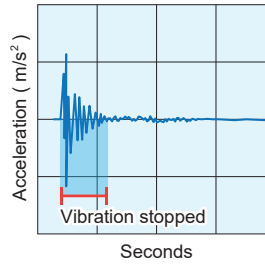
#### Vibration Test



Solid metal body does not absorb cutting vibration.

### Slim Hydro Chuck

#### Vibration Test



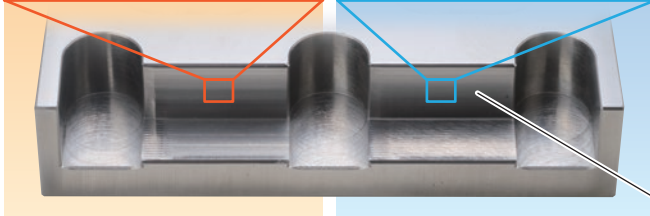
Oil chamber around the chucking sleeve absorbs cutting vibrations.

## Work surface comparison

### Slim Type Shrink Fit Chuck



### Slim Hydro Chuck

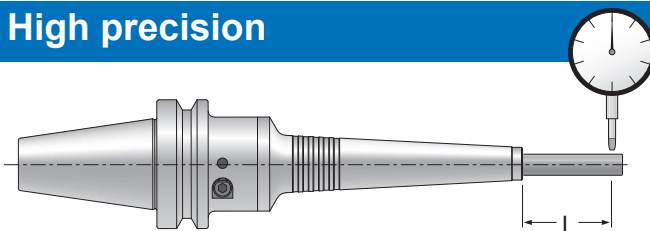


Side wall milling : 1mm × depth 18mm

### Cutting Condition

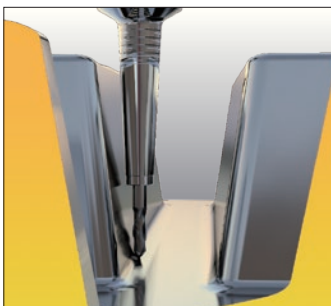
Machine	Vertical Machining Center
Work Piece Material	S50C
Cutter	φ 12 carbide end-mill with 4 irregular pitch flutes
Rotational Speed	4,200min <sup>-1</sup>
Feed	850mm/min

## High precision



Holder I.D.	Projection length (L)	Accuracy
ALL	4d	<b>3μm</b>

## Cutting applications



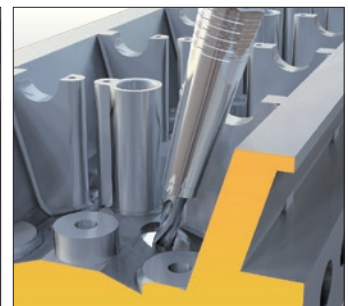
Finishing with ball endmill in tight space



Finishing with ball endmill on 5-axis machine



Reaming in tight space



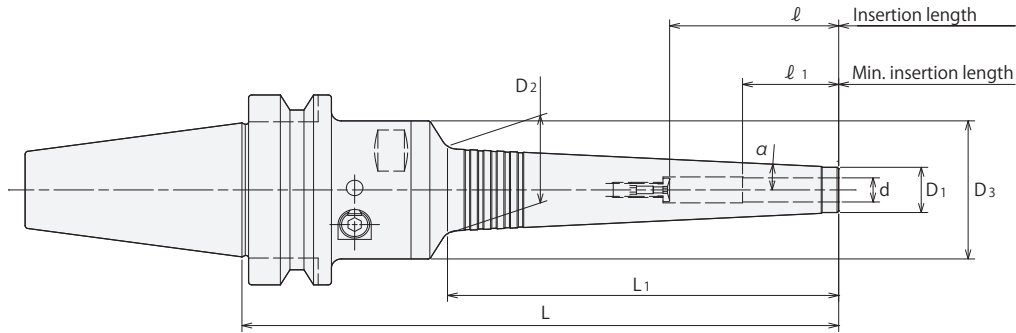
Drilling in tight space

# PHC · S New



Slim Hydro Chuck

- Perfect choice for tight space applications, such as endmill finishing, drilling and reaming on 5-axis machines.



## Metric Sizes

Unit : Metric

Code	Model	d	L	L <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	ℓ	ℓ <sub>1</sub>	α	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)
3700 00103085	BT30 -PHC03S - 85	3	85	30	11	14.2	46	52	18	3°	38,000	0.6	L-4T
3700 00103130	- 130	3	130	71	11	18.5	46	97	18	3°	23,000	0.9	
3700 00104085	BT30 -PHC04S - 85	4	85	30	11	14.2	46	52	24	3°	38,000	0.6	
3700 00104130	- 130	4	130	71	11	18.5	46	97	24	3°	22,000	0.9	
3700 00106135	BT30 -PHC06S - 135	6	135	71	13	20.5	46	37	29	3°	21,000	1.0	
3700 00106150	- 150	6	150	87	13	22.2	46	37	29	3°	15,000	1.0	
3700 00106165	- 165	6	165	102	13	23.7	46	37	29	3°	12,000	1.1	
3700 00106180	- 180	6	180	118	13	25.4	46	37	29	3°	10,000	1.1	
3700 00107135	BT30 -PHC07S - 135	7	135	71	14	21.5	46	37	29	3°	21,000	1.0	
3700 00107150	- 150	7	150	87	14	23.2	46	37	29	3°	15,000	1.0	
3700 00107165	- 165	7	165	102	14	24.7	46	37	29	3°	12,000	1.1	
3700 00107180	- 180	7	180	118	14	26.4	46	37	29	3°	10,000	1.1	
3700 00108135	BT30 -PHC08S - 135	8	135	72	15	22.6	46	50	29	3°	20,000	1.0	
3700 00108150	- 150	8	150	87	15	24.2	46	50	29	3°	15,000	1.0	
3700 00108165	- 165	8	165	103	15	25.8	46	50	29	3°	12,000	1.1	
3700 00108180	- 180	8	180	118	15	27.4	46	50	29	3°	10,000	1.2	
3700 00109135	BT30 -PHC09S - 135	9	135	72	16	23.6	46	50	40	3°	20,000	1.0	
3700 00109150	- 150	9	150	87	16	25.2	46	50	40	3°	15,000	1.1	
3700 00109165	- 165	9	165	103	16	26.8	46	50	40	3°	12,000	1.1	
3700 00109180	- 180	9	180	118	16	28.4	46	50	40	3°	10,000	1.2	
3700 00110135	BT30 -PHC10S - 135	10	135	72	17	24.6	46	50	40	3°	20,000	1.0	
3700 00110150	- 150	10	150	88	17	26.3	46	50	40	3°	15,000	1.1	
3700 00110165	- 165	10	165	103	17	27.8	46	50	40	3°	12,000	1.1	
3700 00110180	- 180	10	180	119	17	29.5	46	50	40	3°	10,000	1.2	
3700 00111135	BT30 -PHC11S - 135	11	135	73	18	25.7	46	50	40	3°	19,000	1.0	
3700 00111150	- 150	11	150	88	18	27.3	46	50	40	3°	15,000	1.1	
3700 00111165	- 165	11	165	104	18	29.0	46	50	40	3°	12,000	1.2	
3700 00111180	- 180	11	180	119	18	30.5	46	50	40	3°	10,000	1.2	
3700 00112135	BT30 -PHC12S - 135	12	135	73	19	26.7	46	70	40	3°	19,000	1.0	
3700 00112150	- 150	12	150	88	19	28.3	46	70	40	3°	15,000	1.1	
3700 00112165	- 165	12	165	104	19	30.0	46	70	40	3°	12,000	1.2	
3700 00112180	- 180	12	180	119	19	31.5	46	70	40	3°	10,000	1.2	
3700 00303090	BT40 -PHC03S - 90	3	90	30	11	14.2	46	52	18	3°	20,000	1.1	
3700 00303135	- 135	3	135	71	11	18.5	46	97	18	3°	20,000	1.5	
3700 00304090	BT40 -PHC04S - 90	4	90	30	11	14.2	46	52	24	3°	20,000	1.1	
3700 00304135	- 135	4	135	71	11	18.5	46	97	24	3°	20,000	1.5	
3700 00306135	BT40 -PHC06S - 135	6	135	71	13	20.5	46	37	29	3°	20,000	1.5	
3700 00306150	- 150	6	150	87	13	22.2	46	37	29	3°	16,000	1.5	
3700 00306165	- 165	6	165	102	13	23.7	46	37	29	3°	12,000	1.6	
3700 00306180	- 180	6	180	118	13	25.4	46	37	29	3°	10,000	1.6	
3700 00307135	BT40 -PHC07S - 135	7	135	71	14	21.5	46	37	29	3°	20,000	1.5	
3700 00307150	- 150	7	150	87	14	23.2	46	37	29	3°	16,000	1.5	
3700 00307165	- 165	7	165	102	14	24.7	46	37	29	3°	13,000	1.6	
3700 00307180	- 180	7	180	118	14	26.4	46	37	29	3°	10,000	1.6	
3700 00308135	BT40 -PHC08S - 135	8	135	72	15	22.6	46	50	29	3°	20,000	1.5	
3700 00308150	- 150	8	150	87	15	24.2	46	50	29	3°	17,000	1.5	
3700 00308165	- 165	8	165	103	15	25.8	46	50	29	3°	12,000	1.6	
3700 00308180	- 180	8	180	118	15	27.4	46	50	29	3°	10,000	1.7	

L-4T

L-4T

## Metric Sizes

Unit : Metric

Code	Model	d	L	L <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	ℓ	ℓ <sub>1</sub>	α	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)
3700 00309135	BT40 -PHC09S - 135	9	135	72	16	23.6	46	50	40	3°	20,000	1.5	L-4T
3700 00309150	- 150	9	150	87	16	25.2	46	50	40	3°	16,000	1.6	
3700 00309165	- 165	9	165	103	16	26.8	46	50	40	3°	12,000	1.6	
3700 00309180	- 180	9	180	118	16	28.4	46	50	40	3°	10,000	1.7	
3700 00310135	BT40 -PHC10S - 135	10	135	72	17	24.6	46	50	40	3°	20,000	1.5	
3700 00310150	- 150	10	150	88	17	26.3	46	50	40	3°	16,000	1.6	
3700 00310165	- 165	10	165	103	17	27.8	46	50	40	3°	12,000	1.6	
3700 00310180	- 180	10	180	119	17	29.5	46	50	40	3°	10,000	1.7	
3700 00311135	BT40 -PHC11S - 135	11	135	73	18	25.7	46	50	40	3°	20,000	1.5	
3700 00311150	- 150	11	150	88	18	27.3	46	50	40	3°	15,000	1.6	
3700 00311165	- 165	11	165	104	18	29.0	46	50	40	3°	12,000	1.7	
3700 00311180	- 180	11	180	119	18	30.5	46	50	40	3°	10,000	1.7	
3700 00312135	BT40 -PHC12S - 135	12	135	73	19	26.7	46	70	40	3°	20,000	1.5	
3700 00312150	- 150	12	150	88	19	28.3	46	70	40	3°	15,000	1.6	
3700 00312165	- 165	12	165	104	19	30.0	46	70	40	3°	12,000	1.7	
3700 00312180	- 180	12	180	119	19	31.5	46	70	40	3°	10,000	1.8	
3700 00316135	BT40 -PHC16S - 135	16	135	72	23	30.6	52.5	75	40	3°	20,000	1.7	
3700 00316165	- 165	16	165	103	23	33.8	52.5	80	40	3°	13,000	1.9	
3700 00316180	- 180	16	180	119	23	35.5	52.5	80	40	3°	10,000	2.0	
3700 00320135	BT40 -PHC20S - 135	20	135	63	28	34.7	62	70	40	3°	18,000	2.2	
3700 00320165	- 165	20	165	93	28	37.8	62	100	40	3°	14,000	2.3	
3700 00320180	- 180	20	180	109	28	39.5	62	100	40	3°	12,000	2.5	
3700 00325135	BT40 -PHC25S - 135	25	135	65	37	43.9	62	70	50	3°	16,000	2.2	
3700 00325165	- 165	25	165	96	37	47.1	62	100	50	3°	15,000	2.5	
3700 00325180	- 180	25	180	112	37	48.8	62	110	50	3°	11,000	2.6	
3700 00506150	BT50 -PHC06S - 150	6	150	71	13	20.5	46	37	29	3°	15,000	4.1	
3700 00506165	- 165	6	165	87	13	22.2	46	37	29	3°	15,000	4.1	
3700 00506180	- 180	6	180	102	13	23.7	46	37	29	3°	12,000	4.2	
3700 00506195	- 195	6	195	118	13	25.4	46	37	29	3°	10,000	4.2	
3700 00507150	BT50 -PHC07S - 150	7	150	71	14	21.5	46	37	29	3°	15,000	4.1	
3700 00507165	- 165	7	165	87	14	23.2	46	37	29	3°	15,000	4.1	
3700 00507180	- 180	7	180	102	14	24.7	46	37	29	3°	12,000	4.2	
3700 00507195	- 195	7	195	118	14	26.4	46	37	29	3°	10,000	4.2	
3700 00508150	BT50 -PHC08S - 150	8	150	72	15	22.6	46	50	29	3°	15,000	4.1	
3700 00508165	- 165	8	165	87	15	24.2	46	50	29	3°	15,000	4.1	
3700 00508180	- 180	8	180	103	15	25.8	46	50	29	3°	12,000	4.2	
3700 00508195	- 195	8	195	118	15	27.4	46	50	29	3°	10,000	4.2	
3700 00509150	BT50 -PHC09S - 150	9	150	72	16	23.6	46	50	40	3°	15,000	4.1	
3700 00509165	- 165	9	165	87	16	25.2	46	50	40	3°	15,000	4.1	
3700 00509180	- 180	9	180	103	16	26.8	46	50	40	3°	12,000	4.2	
3700 00509195	- 195	9	195	118	16	28.4	46	50	40	3°	10,000	4.3	
3700 00510150	BT50 -PHC10S - 150	10	150	72	17	24.6	46	50	40	3°	15,000	4.1	
3700 00510165	- 165	10	165	88	17	26.3	46	50	40	3°	15,000	4.2	
3700 00510180	- 180	10	180	103	17	27.8	46	50	40	3°	12,000	4.2	
3700 00510195	- 195	10	195	119	17	29.5	46	50	40	3°	10,000	4.3	
3700 00511150	BT50 -PHC11S - 150	11	150	73	18	25.7	46	50	40	3°	15,000	4.1	
3700 00511165	- 165	11	165	88	18	27.3	46	50	40	3°	15,000	4.2	
3700 00511180	- 180	11	180	104	18	29.0	46	50	40	3°	12,000	4.2	
3700 00511195	- 195	11	195	119	18	30.5	46	50	40	3°	10,000	4.3	
3700 00512150	BT50 -PHC12S - 150	12	150	73	19	26.7	46	70	40	3°	15,000	4.1	
3700 00512165	- 165	12	165	88	19	28.3	46	70	40	3°	15,000	4.2	
3700 00512180	- 180	12	180	104	19	30.0	46	70	40	3°	12,000	4.3	
3700 00512195	- 195	12	195	119	19	31.5	46	70	40	3°	10,000	4.3	
3700 00516150	BT50 -PHC16S - 150	16	150	72	23	30.6	52.5	75	40	3°	15,000	4.2	
3700 00516180	- 180	16	180	103	23	33.8	52.5	80	40	3°	12,000	4.4	
3700 00516195	- 195	16	195	119	23	35.5	52.5	80	40	3°	10,000	4.6	
3700 00520150	BT50 -PHC20S - 150	20	150	63	28	34.7	62	70	40	3°	15,000	4.7	
3700 00520180	- 180	20	180	93	28	37.8	62	100	40	3°	14,000	4.9	
3700 00520195	- 195	20	195	109	28	39.5	62	100	40	3°	12,000	5.0	
3700 00525150	BT50 -PHC25S - 150	25	150	65	37	43.9	62	70	50	3°	15,000	4.8	
3700 00525180	- 180	25	180	96	37	47.1	62	100	50	3°	14,000	5.0	
3700 00525195	- 195	25	195	112	37	48.8	62	110	50	3°	12,000	5.2	

1. Tool shank diameter tolerance must be within h6.
2. Hex-head screws are necessary to plug air hole for center through coolant feed.
3. Permissible speed is greatly affected by the stiffness of the machine spindle and the balance of the cutting tool. Gradually increase from a low speed, and use at the proper speed.



### Ordering Example

**BT50 - PHC 12 S - 150**  
 Shank size                      I.D. (d)                      Projection length (L)

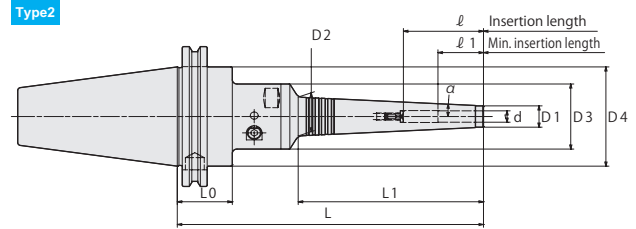
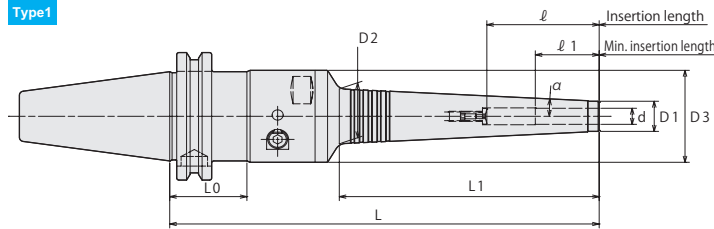
Tightening torque ( Torque wrench : p.45 )		
Model	I.D. (d)	Tightening torque (Nm)
	mm	
PHC·S	06 ~ 12, 16	9 ~ 10
PHC·S	20 ~ 25	23 ~ 24

# PHC · S New



Slim Hydro Chuck

- Perfect choice for tight space applications, such as endmill finishing, drilling and reaming on 5-axis machines.



## Inch Sizes

Unit : Inch

Code	Model	Type	d	L	L1	D1	D2	D3	D4	L0	ℓ	ℓ1	α	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)
—	CAT40 -PHC0125S -100	1	0.125	3.937	1.181	0.433	0.555	1.803	—	1.379	2.047	0.708	3°	—	—	L-4T
—	-145	1	0.125	5.708	2.795	0.433	0.724	1.803	—	1.379	3.818	0.708	3°	—	—	
—	-195	1	0.125	7.677	2.795	0.433	0.724	1.803	—	1.379	3.818	0.708	3°	—	—	
—	CAT40 -PHC0250S -150	1	0.250	5.906	2.795	0.512	0.807	1.811	—	1.380	1.457	1.142	3°	16,000	—	
—	-165	1	0.250	6.496	3.425	0.512	0.874	1.811	—	1.380	1.457	1.142	3°	12,000	—	
—	-180	1	0.250	7.087	4.016	0.512	0.933	1.811	—	1.380	1.457	1.142	3°	10,000	—	
—	-195	1	0.250	7.677	4.646	0.512	1.000	1.811	—	1.380	1.457	1.142	3°	10,000	—	
—	CAT40 -PHC0312S -150	1	0.312	5.906	2.835	0.591	0.890	1.811	—	1.380	1.969	1.142	3°	17,000	—	
—	-165	1	0.312	6.496	3.425	0.591	0.953	1.811	—	1.380	1.969	1.142	3°	12,000	—	
—	-180	1	0.312	7.087	4.055	0.591	1.016	1.811	—	1.380	1.969	1.142	3°	10,000	—	
—	-195	1	0.312	7.677	4.646	0.591	1.079	1.811	—	1.380	1.969	1.142	3°	10,000	—	
—	CAT40 -PHC0375S -150	1	0.375	5.906	2.835	0.669	0.969	1.811	—	1.380	1.969	1.575	3°	16,000	—	
—	-165	1	0.375	6.496	3.465	0.669	1.035	1.811	—	1.380	1.969	1.575	3°	12,000	—	
—	-180	1	0.375	7.087	4.055	0.669	1.094	1.811	—	1.380	1.969	1.575	3°	10,000	—	
—	-195	1	0.375	7.677	4.685	0.669	1.161	1.811	—	1.380	1.969	1.575	3°	10,000	—	
—	CAT40 -PHC0500S -150	1	0.500	5.906	2.874	0.787	1.091	1.811	—	1.380	2.756	1.575	3°	15,000	—	
—	-165	1	0.500	6.496	3.504	0.787	1.157	1.811	—	1.380	2.756	1.575	3°	12,000	—	
—	-180	1	0.500	7.087	4.094	0.787	1.220	1.811	—	1.380	2.756	1.575	3°	10,000	—	
—	-195	1	0.500	7.677	4.724	0.787	1.283	1.811	—	1.380	2.756	1.575	3°	10,000	—	
—	CAT40 -PHC0750S -150	1	0.75	5.905	2.48	1.102	1.362	2.44	—	1.379	2.755	1.574	3°	—	—	
—	-180	1	0.75	7.086	3.661	1.102	1.484	2.44	—	1.379	3.937	1.574	3°	—	—	
—	-195	1	0.75	7.677	4.291	1.102	1.551	2.44	—	1.379	3.937	1.574	3°	—	—	
—	CAT40 -PHC1000S -150	1	1.000	5.905	2.559	1.456	1.724	2.44	—	1.379	2.755	1.968	3°	—	—	
—	-180	1	1.000	7.086	3.779	1.456	1.854	2.44	—	1.379	3.937	1.968	3°	—	—	
—	-195	1	1.000	7.677	4.409	1.456	1.917	2.44	—	1.379	4.33	1.968	3°	—	—	
—	CAT50 -PHC0250S -150	2	0.250	5.906	2.795	0.512	0.807	1.811	2.750	1.380	1.457	1.142	3°	15,000	—	
—	-165	2	0.250	6.496	3.425	0.512	0.874	1.811	2.750	1.380	1.457	1.142	3°	15,000	—	
—	-180	2	0.250	7.087	4.016	0.512	0.933	1.811	2.750	1.380	1.457	1.142	3°	12,000	—	
—	-195	2	0.250	7.677	4.646	0.512	1.000	1.811	2.750	1.380	1.457	1.142	3°	10,000	—	
—	CAT50 -PHC0312S -150	2	0.312	5.906	2.835	0.591	0.890	1.811	2.750	1.380	1.969	1.142	3°	15,000	—	
—	-165	2	0.312	6.496	3.425	0.591	0.953	1.811	2.750	1.380	1.969	1.142	3°	15,000	—	
—	-180	2	0.312	7.087	4.055	0.591	1.016	1.811	2.750	1.380	1.969	1.142	3°	12,000	—	
—	-195	2	0.312	7.677	4.646	0.591	1.079	1.811	2.750	1.380	1.969	1.142	3°	10,000	—	
—	CAT50 -PHC0375S -150	2	0.375	5.906	2.835	0.669	0.969	1.811	2.750	1.380	1.969	1.575	3°	15,000	—	
—	-165	2	0.375	6.496	3.465	0.669	1.035	1.811	2.750	1.380	1.969	1.575	3°	15,000	—	
—	-180	2	0.375	7.087	4.055	0.669	1.094	1.811	2.750	1.380	1.969	1.575	3°	12,000	—	
—	-195	2	0.375	7.677	4.685	0.669	1.161	1.811	2.750	1.380	1.969	1.575	3°	10,000	—	
—	CAT50 -PHC0500S -150	2	0.500	5.906	2.874	0.787	1.091	1.811	2.750	1.380	2.756	1.575	3°	15,000	—	
—	-165	2	0.500	6.496	3.504	0.787	1.157	1.811	2.750	1.380	2.756	1.575	3°	15,000	—	
—	-180	2	0.500	7.087	4.094	0.787	1.220	1.811	2.750	1.380	2.756	1.575	3°	12,000	—	
—	-195	2	0.500	7.677	4.724	0.787	1.283	1.811	2.750	1.380	2.756	1.575	3°	10,000	—	

1. Tool shank diameter tolerance must be within h6.
2. Do not leave the holder with actuating screw tightened when the chuck is empty.
3. Hex-head screws are necessary to plug air hole for center through coolant feed.

### Ordering Example

**CAT40 - PHC 0250 S - 150**  
 Shank size I.D. (d) Projection length (L)

Metric Sizes														Unit : Metric	
Code	Model	Type	d	L	L1	D1	D2	D3	L0	ℓ	ℓ1	α	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)
1830 00403100	CAT40 -PHC03S -100	1	3	100	30	11	14.2	46	—	—	18	3°	20,000	1.4	L-4T
1830 00403145	-145	1	3	145	71	11	18.5	46	—	—	18	3°	18,000	1.5	
1830 00404100	CAT40 -PHC04S -100	1	4	100	30	11	14.2	46	—	52	24	3°	20,000	1.4	
1830 00404145	-145	1	4	145	71	11	18.5	46	—	97	24	3°	18,000	1.5	
1830 00406150	CAT40 -PHC06S -150	1	6	150	71	13	20.5	46	35.05	37	29	3°	16,000	1.6	
1830 00406165	-165	1	6	165	87	13	22.2	46	35.05	37	29	3°	12,000	1.6	
1830 00406180	-180	1	6	180	102	13	23.7	46	35.05	37	29	3°	10,000	1.7	
1830 00406195	-195	1	6	195	118	13	25.4	46	35.05	37	29	3°	10,000	1.7	
1830 00407150	CAT40 -PHC07S -150	1	7	150	71	14	21.5	46	35.05	37	29	3°	16,000	-	
1830 00407165	-165	1	7	165	87	14	23.2	46	35.05	37	29	3°	13,000	1.6	
1830 00407180	-180	1	7	180	102	14	24.7	46	35.05	37	29	3°	10,000	-	
1830 00407195	-195	1	7	195	118	14	26.4	46	35.05	37	29	3°	10,000	1.7	
1830 00408150	CAT40 -PHC08S -150	1	8	150	72	15	22.6	46	35.05	50	29	3°	17,000	1.6	
1830 00408165	-165	1	8	165	87	15	24.2	46	35.05	50	29	3°	12,000	1.7	
1830 00408180	-180	1	8	180	103	15	25.8	46	35.05	50	29	3°	10,000	1.7	
1830 00408195	-195	1	8	195	118	15	27.4	46	35.05	50	29	3°	10,000	1.8	
1830 00409150	CAT40 -PHC09S -150	1	9	150	72	16	23.6	46	35.05	50	40	3°	16,000	-	
1830 00409165	-165	1	9	165	87	16	25.2	46	35.05	50	40	3°	12,000	1.7	
1830 00409180	-180	1	9	180	103	16	26.8	46	35.05	50	40	3°	10,000	-	
1830 00409195	-195	1	9	195	118	16	28.4	46	35.05	50	40	3°	10,000	1.8	
1830 00410150	CAT40 -PHC10S -150	1	10	150	72	17	24.6	46	35.05	50	40	3°	16,000	1.6	
1830 00410165	-165	1	10	165	88	17	26.3	46	35.05	50	40	3°	12,000	1.7	
1830 00410180	-180	1	10	180	103	17	27.8	46	35.05	50	40	3°	10,000	1.7	
1830 00410195	-195	1	10	195	119	17	29.5	46	35.05	50	40	3°	10,000	1.8	
1830 00411150	CAT40 -PHC11S -150	1	11	150	73	18	25.7	46	35.05	50	40	3°	15,000	-	
1830 00411165	-165	1	11	165	88	18	27.3	46	35.05	50	40	3°	12,000	1.7	
1830 00411180	-180	1	11	180	104	18	29.0	46	35.05	50	40	3°	10,000	-	
1830 00411195	-195	1	11	195	119	18	30.5	46	35.05	50	40	3°	10,000	1.8	
1830 00412150	CAT40 -PHC12S -150	1	12	150	73	19	26.7	46	35.05	70	40	3°	15,000	1.6	
1830 00412165	-165	1	12	165	88	19	28.3	46	35.05	70	40	3°	12,000	1.7	
1830 00412180	-180	1	12	180	104	19	30.0	46	35.05	70	40	3°	10,000	1.8	
1830 00412195	-195	1	12	195	119	19	31.5	46	35.05	70	40	3°	10,000	1.9	
1830 00416150	CAT40 -PHC16S -150	1	16	150	72	23	30.6	52.5	35.05	75	40	3°	13,000	1.8	
1830 00416180	-180	1	16	180	103	23	33.8	52.5	35.05	80	40	3°	10,000	2	
1830 00416195	-195	1	16	195	119	23	35.5	52.5	35.05	80	40	3°	10,000	2.1	
1830 00420150	CAT40 -PHC20S -150	1	20	150	63	28	34.7	62	35.05	70	40	3°	14,000	2.3	
1830 00420180	-180	1	20	180	93	28	37.8	62	35.05	100	40	3°	12,000	2.4	
1830 00420195	-195	1	20	195	109	28	39.5	62	35.05	100	40	3°	12,000	2.6	
1830 00425150	CAT40 -PHC25S -150	1	25	150	65	37	43.9	62	35.05	70	50	3°	15,000	2.4	
1830 00425180	-180	1	25	180	96	37	47.1	62	35.05	100	50	3°	11,000	2.7	
1830 00425195	-195	1	25	195	112	37	48.8	62	35.05	110	50	3°	11,000	2.8	

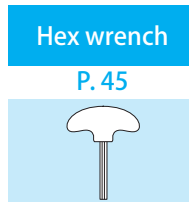
PHC-A

PHC-S

PHZ-S

1. Tool shank diameter tolerance must be within h6.
2. Do not leave the holder with actuating screw tightened when the chuck is empty.
3. Hex-head screws (included) are necessary to plug air hole for center through coolant feed.

Tightening torque ( Torque wrench : p.45 )			
Model	I.D. (d)		Tightening torque (Nm)
	mm	inch	
PHC-S	06 ~ 12, 16	0.250 ~ 0.500	9 ~ 10
PHC-S	20 ~ 25	—	23 ~ 24



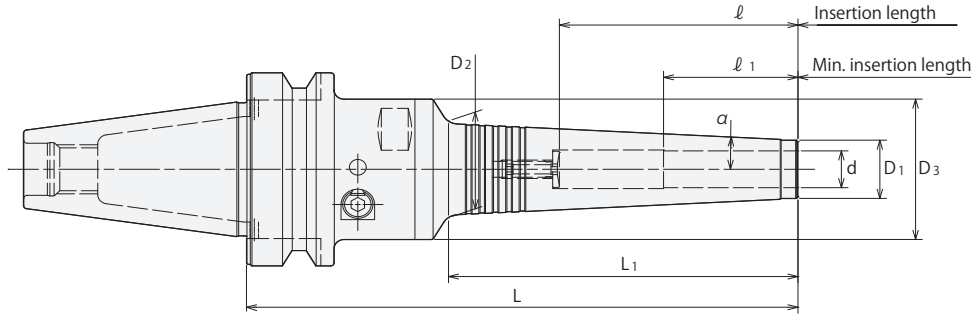
**Ordering Example**  
**CAT40 - PHC 12 S - 150**  
 Shank size                      I.D. (d)                      Projection length (L)

# PHC · S New



Slim Hydro Chuck

- Perfect choice for tight space applications, such as endmill finishing, drilling and reaming on 5-axis machines.



• When AHO is used with center through coolant feeding, a designated retention stud (with coolant pipe) for AHO must be used.

## Metric Sizes

Unit : Metric

Code	Model	d	L	L <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	l	l <sub>1</sub>	α	Kg	Wrench (Sold separately)
3720 ※ 1070000	WBT - AHO30 or NBT - AHO30 -PHC03S - 85	3	85	30	11	14.2	46	52	18	3°	0.5	L-4T
3720 ※ 1080000	- 130	3	130	71	11	18.5	46	97	18	3°	0.8	
3720 ※ 1030000	-PHC04S - 85	4	85	30	11	14.2	46	52	24	3°	0.5	
3720 ※ 1040000	- 130	4	130	71	11	18.5	46	97	24	3°	0.8	
3720 ※ 0010000	-PHC06S - 135	6	135	71	13	20.5	46	37	29	3°	0.9	
3720 ※ 0020000	- 150	6	150	87	13	22.2	46	37	29	3°	0.9	
3720 ※ 0030000	- 165	6	165	102	13	23.7	46	37	29	3°	1.0	
3720 ※ 0040000	- 180	6	180	118	13	25.4	46	37	29	3°	1.0	
3720 ※ 0050000	-PHC07S - 135	7	135	71	14	21.5	46	37	29	3°	0.9	
3720 ※ 0060000	- 150	7	150	87	14	23.2	46	37	29	3°	1.0	
3720 ※ 0070000	- 165	7	165	102	14	24.7	46	37	29	3°	1.0	
3720 ※ 0080000	- 180	7	180	118	14	26.4	46	37	29	3°	1.1	
3720 ※ 0090000	-PHC08S - 135	8	135	72	15	22.6	46	50	29	3°	0.9	
3720 ※ 0100000	- 150	8	150	87	15	24.2	46	50	29	3°	1.0	
3720 ※ 0110000	- 165	8	165	103	15	25.8	46	50	29	3°	1.0	
3720 ※ 0120000	- 180	8	180	118	15	27.4	46	50	29	3°	1.1	
3720 ※ 0130000	-PHC09S - 135	9	135	72	16	23.6	46	50	40	3°	0.9	
3720 ※ 0140000	- 150	9	150	87	16	25.2	46	50	40	3°	1.0	
3720 ※ 0150000	- 165	9	165	103	16	26.8	46	50	40	3°	1.0	
3720 ※ 0160000	- 180	9	180	118	16	28.4	46	50	40	3°	1.1	
3720 ※ 0170000	-PHC10S - 135	10	135	72	17	24.6	46	50	40	3°	0.9	
3720 ※ 0180000	- 150	10	150	88	17	26.3	46	50	40	3°	1.0	
3720 ※ 0190000	- 165	10	165	103	17	27.8	46	50	40	3°	1.1	
3720 ※ 0200000	- 180	10	180	119	17	29.5	46	50	40	3°	1.1	
3720 ※ 0210000	-PHC11S - 135	11	135	73	18	25.7	46	50	40	3°	1.0	
3720 ※ 0220000	- 150	11	150	88	18	27.3	46	50	40	3°	1.0	
3720 ※ 0230000	- 165	11	165	104	18	29.0	46	50	40	3°	1.1	
3720 ※ 0240000	- 180	11	180	119	18	30.5	46	50	40	3°	1.2	
3720 ※ 0250000	-PHC12S - 135	12	135	73	19	26.7	46	70	40	3°	1.0	
3720 ※ 0260000	- 150	12	150	88	19	28.3	46	70	40	3°	1.0	
3720 ※ 0270000	- 165	12	165	104	19	30.0	46	70	40	3°	1.1	
3720 ※ 0280000	- 180	12	180	119	19	31.5	46	70	40	3°	1.2	
3720 ※ 1090000	WBT - AHO40 or NBT - AHO40 -PHC03S - 90	3	90	30	11	14.2	46	52	18	3°	1.0	L-4T
3720 ※ 1100000	- 135	3	135	71	11	18.5	46	97	18	3°	1.3	
3720 ※ 1050000	-PHC04S - 90	4	90	30	11	14.2	46	52	24	3°	1.0	
3720 ※ 1060000	- 135	4	135	71	11	18.5	46	97	24	3°	1.3	
3720 ※ 0290000	-PHC06S - 135	6	135	71	13	20.5	46	37	29	3°	1.3	
3720 ※ 0300000	- 150	6	150	87	13	22.2	46	37	29	3°	1.4	
3720 ※ 0310000	- 165	6	165	102	13	23.7	46	37	29	3°	1.4	
3720 ※ 0320000	- 180	6	180	118	13	25.4	46	37	29	3°	1.4	
3720 ※ 0330000	-PHC07S - 135	7	135	71	14	21.5	46	37	29	3°	1.3	
3720 ※ 0340000	- 150	7	150	87	14	23.2	46	37	29	3°	1.4	
3720 ※ 0350000	- 165	7	165	102	14	24.7	46	37	29	3°	1.4	
3720 ※ 0360000	- 180	7	180	118	14	26.4	46	37	29	3°	1.5	
3720 ※ 0370000	-PHC08S - 135	8	135	72	15	22.6	46	50	29	3°	1.3	
3720 ※ 0380000	- 150	8	150	87	15	24.2	46	50	29	3°	1.4	
3720 ※ 0390000	- 165	8	165	103	15	25.8	46	50	29	3°	1.4	
3720 ※ 0400000	- 180	8	180	118	15	27.4	46	50	29	3°	1.5	

## Metric Sizes

Unit : Metric

Code	Model	d	L	L <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	ℓ	ℓ <sub>1</sub>	α	Kg	Wrench (Sold separately)	
3720 ※ 0410000	WBT - AHO40 or NBT - AHO40 -PHC09S - 135	9	135	72	16	23.6	46	50	40	3°	1.3	L-4T	
3720 ※ 0420000	- 150	9	150	87	16	25.2	46	50	40	3°	1.4		
3720 ※ 0430000	- 165	9	165	103	16	26.8	46	50	40	3°	1.5		
3720 ※ 0440000	- 180	9	180	118	16	28.4	46	50	40	3°	1.5		
3720 ※ 0450000	-PHC10S - 135	10	135	72	17	24.6	46	50	40	3°	1.4		
3720 ※ 0460000	- 150	10	150	88	17	26.3	46	50	40	3°	1.4		
3720 ※ 0470000	- 165	10	165	103	17	27.8	46	50	40	3°	1.5		
3720 ※ 0480000	- 180	10	180	119	17	29.5	46	50	40	3°	1.5		
3720 ※ 0490000	-PHC11S - 135	11	135	73	18	25.7	46	50	40	3°	1.4		
3720 ※ 0500000	- 150	11	150	88	18	27.3	46	50	40	3°	1.4		
3720 ※ 0510000	- 165	11	165	104	18	29.0	46	50	40	3°	1.5		
3720 ※ 0520000	- 180	11	180	119	18	30.5	46	50	40	3°	1.6		
3720 ※ 0530000	-PHC12S - 135	12	135	73	19	26.7	46	70	40	3°	1.4		
3720 ※ 0540000	- 150	12	150	88	19	28.3	46	70	40	3°	1.4		
3720 ※ 0550000	- 165	12	165	104	19	30.0	46	70	40	3°	1.5		
3720 ※ 0560000	- 180	12	180	119	19	31.5	46	70	40	3°	1.6		
3720 ※ 0850000	-PHC16S - 135	16	135	72	23	30.6	52.5	75	40	3°	1.5		
3720 ※ 0860000	- 165	16	165	103	23	33.8	52.5	80	40	3°	1.7		
3720 ※ 0870000	- 180	16	180	119	23	35.5	52.5	80	40	3°	1.8		
3720 ※ 0880000	-PHC20S - 135	20	135	63	28	34.7	62	70	40	3°	2.0		
3720 ※ 0890000	- 165	20	165	93	28	37.8	62	100	40	3°	2.2		
3720 ※ 0900000	- 180	20	180	109	28	39.5	62	100	40	3°	2.3		
3720 ※ 0910000	-PHC25S - 135	25	135	65	37	43.9	62	70	50	3°	2.1		
3720 ※ 0920000	- 165	25	165	96	37	47.1	62	100	50	3°	2.3		
3720 ※ 0930000	- 180	25	180	112	37	48.8	62	110	50	3°	2.5		
3720 ※ 0570000	WBT - AHO50 or NBT - AHO50 -PHC06S - 150	6	150	71	13	20.5	46	37	29	3°	3.4		L-4T
3720 ※ 0580000	- 165	6	165	87	13	22.2	46	37	29	3°	3.4		
3720 ※ 0590000	- 180	6	180	102	13	23.7	46	37	29	3°	3.5		
3720 ※ 0600000	- 195	6	195	118	13	25.4	46	37	29	3°	3.5		
3720 ※ 0610000	-PHC07S - 150	7	150	71	14	21.5	46	37	29	3°	3.4		
3720 ※ 0620000	- 165	7	165	87	14	23.2	46	37	29	3°	3.4		
3720 ※ 0630000	- 180	7	180	102	14	24.7	46	37	29	3°	3.5		
3720 ※ 0640000	- 195	7	195	118	14	26.4	46	37	29	3°	3.5		
3720 ※ 0650000	-PHC08S - 150	8	150	72	15	22.6	46	50	29	3°	3.4		
3720 ※ 0660000	- 165	8	165	87	15	24.2	46	50	29	3°	3.4		
3720 ※ 0670000	- 180	8	180	103	15	25.8	46	50	29	3°	3.5		
3720 ※ 0680000	- 195	8	195	118	15	27.4	46	50	29	3°	3.5		
3720 ※ 0690000	-PHC09S - 150	9	150	72	16	23.6	46	50	40	3°	3.4		
3720 ※ 0700000	- 165	9	165	87	16	25.2	46	50	40	3°	3.4		
3720 ※ 0710000	- 180	9	180	103	16	26.8	46	50	40	3°	3.5		
3720 ※ 0720000	- 195	9	195	118	16	28.4	46	50	40	3°	3.6		
3720 ※ 0730000	-PHC10S - 150	10	150	72	17	24.6	46	50	40	3°	3.4		
3720 ※ 0740000	- 165	10	165	88	17	26.3	46	50	40	3°	3.5		
3720 ※ 0750000	- 180	10	180	103	17	27.8	46	50	40	3°	3.5		
3720 ※ 0760000	- 195	10	195	119	17	29.5	46	50	40	3°	3.6		
3720 ※ 0770000	-PHC11S - 150	11	150	73	18	25.7	46	50	40	3°	3.4		
3720 ※ 0780000	- 165	11	165	88	18	27.3	46	50	40	3°	3.5		
3720 ※ 0790000	- 180	11	180	104	18	29.0	46	50	40	3°	3.5		
3720 ※ 0800000	- 195	11	195	119	18	30.5	46	50	40	3°	3.6		
3720 ※ 0810000	-PHC12S - 150	12	150	73	19	26.7	46	70	40	3°	3.4		
3720 ※ 0820000	- 165	12	165	88	19	28.3	46	70	40	3°	3.5		
3720 ※ 0830000	- 180	12	180	104	19	30.0	46	70	40	3°	3.6		
3720 ※ 0840000	- 195	12	195	119	19	31.5	46	70	40	3°	3.6		
3720 ※ 0940000	-PHC16S - 150	16	150	72	23	30.6	52.5	75	40	3°	3.5		
3720 ※ 0950000	- 180	16	180	103	23	33.8	52.5	80	40	3°	3.7		
3720 ※ 0960000	- 195	16	195	119	23	35.5	52.5	80	40	3°	3.8		
3720 ※ 0970000	-PHC20S - 150	20	150	63	28	34.7	62	70	40	3°	4.0		
3720 ※ 0980000	- 180	20	180	93	28	37.8	62	100	40	3°	4.2		
3720 ※ 0990000	- 195	20	195	109	28	39.5	62	100	40	3°	4.3		
3720 ※ 1000000	-PHC25S - 150	25	150	65	37	43.9	62	70	50	3°	4.1		
3720 ※ 1010000	- 180	25	180	96	37	47.1	62	100	50	3°	4.3		
3720 ※ 1020000	- 195	25	195	112	37	48.8	62	110	50	3°	4.5		

Please replace ※ in the code with 0 for NBT-AHO and 6 for WBT-AHO.

1. Tool shank diameter tolerance must be within h6.

### Tightening torque ( Torque wrench : p.45 )

Model	I.D. (d)	Tightening torque (Nm)
	mm	
PHC-S	06 ~ 12, 16	9 ~ 10
PHC-S	20 ~ 25	23 ~ 24

### Ordering Example

For standard BT two-face contact spindle

**WBT-AHO50 - PHC 12 S - 150**  
 Shank size I.D. (d) Projection length (L)

### Ordering Example

For NT's two-face contact BT spindle

**NBT-AHO50 - PHC 12 S - 150**  
 Shank size I.D. (d) Projection length (L)

Hex wrench

P. 45

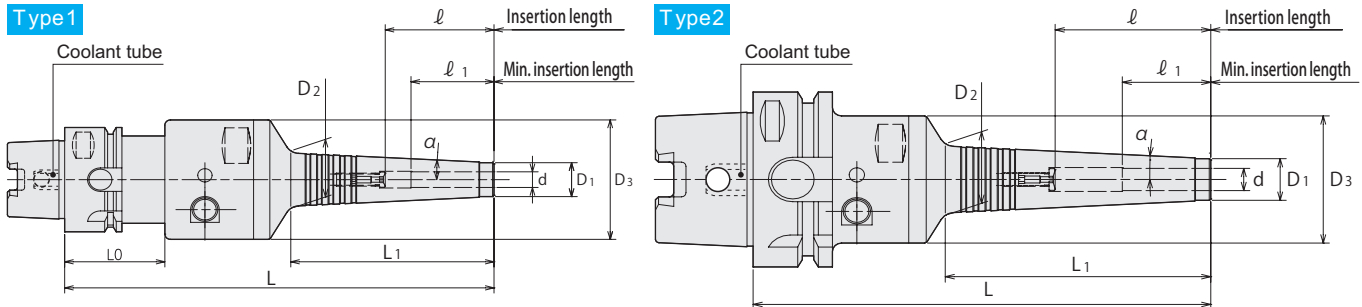


# PHC·S New



Slim Hydro Chuck

- Perfect choice for tight space applications, such as endmill finishing, drilling and reaming on 5-axis machines.



- Coolant tube is included.

## Inch Sizes Unit : Inch

Code	Model	Type	d	L	L1	D1	D2	D3	L0	ℓ	ℓ1	α	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)
-	HSK40A -PHC0250S -150	1	0.250	5.906	2.795	0.512	0.807	1.811	1.378	1.457	1.142	3°	17,000	-	L-4T
-	-165	1	0.250	6.496	3.425	0.512	0.874	1.811	1.378	1.457	1.142	3°	12,000	-	
-	-180	1	0.250	7.087	4.016	0.512	0.933	1.811	1.378	1.457	1.142	3°	10,000	-	
-	HSK40A -PHC0312S -150	1	0.312	5.906	2.835	0.591	0.890	1.811	1.378	1.969	1.142	3°	16,000	-	
-	-165	1	0.312	6.496	3.425	0.591	0.953	1.811	1.378	1.969	1.142	3°	12,000	-	
-	-180	1	0.312	7.087	4.055	0.591	1.016	1.811	1.378	1.969	1.142	3°	10,000	-	
-	HSK40A -PHC0375S -150	1	0.375	5.906	2.835	0.669	0.969	1.811	1.378	1.969	1.575	3°	16,000	-	
-	-165	1	0.375	6.496	3.465	0.669	1.035	1.811	1.378	1.969	1.575	3°	12,000	-	
-	-180	1	0.375	7.087	4.055	0.669	1.094	1.811	1.378	1.969	1.575	3°	10,000	-	
-	HSK40A -PHC0500S -150	1	0.500	5.906	2.874	0.787	1.091	1.811	1.378	2.756	1.575	3°	15,000	-	
-	-165	1	0.500	6.496	3.504	0.787	1.157	1.811	1.378	2.756	1.575	3°	12,000	-	
-	-180	1	0.500	7.087	4.094	0.787	1.220	1.811	1.378	2.756	1.575	3°	10,000	-	
-	HSK50A -PHC0250S -150	1	0.250	5.906	2.795	0.512	0.807	1.811	1.654	1.457	1.142	3°	18,000	-	L-4T
-	-165	1	0.250	6.496	3.425	0.512	0.874	1.811	1.654	1.457	1.142	3°	13,000	-	
-	-180	1	0.250	7.087	4.016	0.512	0.933	1.811	1.654	1.457	1.142	3°	11,000	-	
-	HSK50A -PHC0312S -150	1	0.312	5.906	2.835	0.591	0.890	1.811	1.654	1.969	1.142	3°	18,000	-	
-	-165	1	0.312	6.496	3.425	0.591	0.953	1.811	1.654	1.969	1.142	3°	13,000	-	
-	-180	1	0.312	7.087	4.055	0.591	1.016	1.811	1.654	1.969	1.142	3°	11,000	-	
-	HSK50A -PHC0375S -150	1	0.375	5.906	2.835	0.669	0.969	1.811	1.654	1.969	1.575	3°	18,000	-	
-	-165	1	0.375	6.496	3.465	0.669	1.035	1.811	1.654	1.969	1.575	3°	13,000	-	
-	-180	1	0.375	7.087	4.055	0.669	1.094	1.811	1.654	1.969	1.575	3°	11,000	-	
-	HSK50A -PHC0500S -150	1	0.500	5.906	2.874	0.787	1.091	1.811	1.654	2.756	1.575	3°	16,000	-	
-	-165	1	0.500	6.496	3.504	0.787	1.157	1.811	1.654	2.756	1.575	3°	13,000	-	
-	-180	1	0.500	7.087	4.094	0.787	1.220	1.811	1.654	2.756	1.575	3°	10,000	-	
-	HSK63A -PHC0250S -135 -H	2	0.250	5.315	2.795	0.512	0.807	1.811	-	1.457	1.142	3°	20,500	-	L-4T
-	-150 -H	2	0.250	5.906	3.425	0.512	0.874	1.811	-	1.457	1.142	3°	16,000	-	
-	-165 -H	2	0.250	6.496	4.016	0.512	0.933	1.811	-	1.457	1.142	3°	12,000	-	
-	-180 -H	2	0.250	7.087	4.646	0.512	1.000	1.811	-	1.457	1.142	3°	10,000	-	
-	HSK63A -PHC0312S -135 -H	2	0.312	5.315	2.835	0.591	0.890	1.811	-	1.969	1.142	3°	20,500	-	
-	-150 -H	2	0.312	5.906	3.425	0.591	0.953	1.811	-	1.969	1.142	3°	17,000	-	
-	-165 -H	2	0.312	6.496	4.055	0.591	1.016	1.811	-	1.969	1.142	3°	12,000	-	
-	-180 -H	2	0.312	7.087	4.646	0.591	1.079	1.811	-	1.969	1.142	3°	10,000	-	
-	HSK63A -PHC0375S -135 -H	2	0.375	5.315	2.835	0.669	0.969	1.811	-	1.969	1.575	3°	20,000	-	
-	-150 -H	2	0.375	5.906	3.465	0.669	1.035	1.811	-	1.969	1.575	3°	16,000	-	
-	-165 -H	2	0.375	6.496	4.055	0.669	1.094	1.811	-	1.969	1.575	3°	12,000	-	
-	-180 -H	2	0.375	7.087	4.685	0.669	1.161	1.811	-	1.969	1.575	3°	10,000	-	
-	HSK63A -PHC0500S -135 -H	2	0.500	5.315	2.874	0.787	1.091	1.811	-	2.756	1.575	3°	20,000	-	
-	-150 -H	2	0.500	5.906	3.504	0.787	1.157	1.811	-	2.756	1.575	3°	15,000	-	
-	-165 -H	2	0.500	6.496	4.094	0.787	1.220	1.811	-	2.756	1.575	3°	12,000	-	
-	-180 -H	2	0.500	7.087	4.724	0.787	1.283	1.811	-	2.756	1.575	3°	10,000	-	



Inch Sizes														Unit : Inch		
Code	Model	Type	d	L	L1	D1	D2	D3	L0	ℓ	ℓ1	α	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)	
-	<b>HSK100A -PHC0250S -150 -H</b>	2	0.250	5.906	2.795	0.512	0.807	1.811	-	1.457	1.142	3°	12,500	-	L-4T	
-	<b>-165 -H</b>	2	0.250	6.496	3.425	0.512	0.874	1.811	-	1.457	1.142	3°	12,500	-		
-	<b>-180 -H</b>	2	0.250	7.087	4.016	0.512	0.933	1.811	-	1.457	1.142	3°	11,000	-		
-	<b>-195 -H</b>	2	0.250	7.677	4.646	0.512	1.000	1.811	-	1.457	1.142	3°	9,000	-		
-	<b>HSK100A -PHC0312S -150 -H</b>	2	0.312	5.906	2.835	0.591	0.890	1.811	-	1.969	1.142	3°	12,500	-		
-	<b>-165 -H</b>	2	0.312	6.496	3.425	0.591	0.953	1.811	-	1.969	1.142	3°	12,500	-		
-	<b>-180 -H</b>	2	0.312	7.087	4.055	0.591	1.016	1.811	-	1.969	1.142	3°	11,000	-		
-	<b>-195 -H</b>	2	0.312	7.677	4.646	0.591	1.079	1.811	-	1.969	1.142	3°	9,000	-		
-	<b>HSK100A -PHC0375S -150 -H</b>	2	0.375	5.906	2.835	0.669	0.969	1.811	-	1.969	1.575	3°	12,500	-		
-	<b>-165 -H</b>	2	0.375	6.496	3.465	0.669	1.035	1.811	-	1.969	1.575	3°	12,500	-		
-	<b>-180 -H</b>	2	0.375	7.087	4.055	0.669	1.094	1.811	-	1.969	1.575	3°	11,000	-		
-	<b>-195 -H</b>	2	0.375	7.677	4.685	0.669	1.161	1.811	-	1.969	1.575	3°	9,000	-		
-	<b>HSK100A -PHC0500S -150 -H</b>	2	0.500	5.906	2.874	0.787	1.091	1.811	-	2.756	1.575	3°	12,500	-		
-	<b>-165 -H</b>	2	0.500	6.496	3.504	0.787	1.157	1.811	-	2.756	1.575	3°	12,500	-		
-	<b>-180 -H</b>	2	0.500	7.087	4.094	0.787	1.220	1.811	-	2.756	1.575	3°	11,000	-		
-	<b>-195 -H</b>	2	0.500	7.677	4.724	0.787	1.283	1.811	-	2.756	1.575	3°	9,000	-		

1. Tool shank diameter tolerance must be within h6.
2. Permissible speed is greatly affected by the stiffness of the machine spindle and the balance of the cutting tool. Gradually increase from a low speed, and use at the proper speed.

Tightening torque ( Torque wrench : p.45 )		
Model	I.D. (d)	Tightening torque (Nm)
	inch	
PHC·S	0.250 ~ 0.500	9 ~ 10

Hex wrench

P. 45



### Ordering Example

Without manual clamp holes (HSK40A, HSK50A)

**HSK40A - PHC 0250 S - 150**  
 Shank size                      I.D. (d)                      Projection length (L)

### Ordering Example

With manual clamp holes (HSK63A, HSK100A)

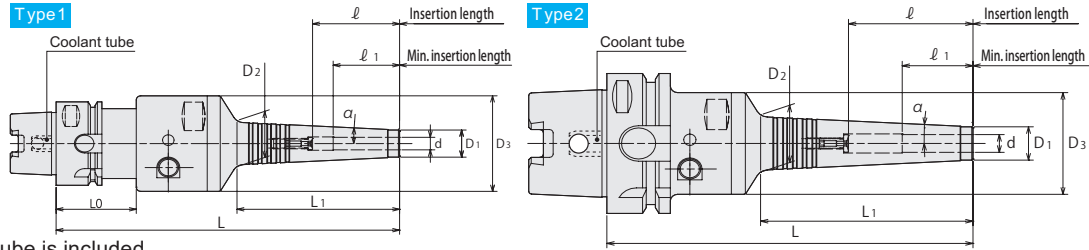
**HSK100A - PHC 0250 S - 150 - H**  
 Shank size                      I.D. (d)                      Projection length (L)                      With manual clamping hole

# PHC·S New



Slim Hydro Chuck

- Perfect choice for tight space applications, such as endmill finishing, drilling and reaming on 5-axis machines.



- Coolant tube is included.

## Metric Sizes

Unit : Metric

Code	Model	Type	d	L	L <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	L <sub>0</sub>	ℓ	ℓ <sub>1</sub>	α	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)
5750 13003100	HSK40A -PHC03S - 100	1	3	100	30	11	14.2	46	35	52	18	3°	30,000	0.4	L-4T
5750 13003145	- 145	1	3	145	71	11	18.5	46	35	97	18	3°	17,000	0.7	
5750 13004100	HSK40A -PHC04S - 100	1	4	100	30	11	14.2	46	35	52	24	3°	30,000	0.4	
5750 13004145	- 145	1	4	145	71	11	18.5	46	35	97	24	3°	17,000	0.7	
5750 13006150	HSK40A -PHC06S - 150	1	6	150	71	13	20.5	46	35	37	29	3°	17,000	0.9	
5750 13006165	- 165	1	6	165	87	13	22.2	46	35	37	29	3°	12,000	1.0	
5750 13006180	- 180	1	6	180	102	13	23.7	46	35	37	29	3°	10,000	1.0	
5750 13007150	HSK40A -PHC07S - 150	1	7	150	71	14	21.5	46	35	37	29	3°	16,000	1.0	
5750 13007165	- 165	1	7	165	87	14	23.2	46	35	37	29	3°	12,000	1.0	
5750 13007180	- 180	1	7	180	102	14	24.7	46	35	37	29	3°	10,000	1.1	
5750 13008150	HSK40A -PHC08S - 150	1	8	150	72	15	22.6	46	35	50	29	3°	16,000	1.0	
5750 13008165	- 165	1	8	165	87	15	24.2	46	35	50	29	3°	12,000	1.0	
5750 13008180	- 180	1	8	180	103	15	25.8	46	35	50	29	3°	10,000	1.1	
5750 13009150	HSK40A -PHC09S - 150	1	9	150	72	16	23.6	46	35	50	40	3°	16,000	1.0	
5750 13009165	- 165	1	9	165	87	16	25.2	46	35	50	40	3°	12,000	1.0	
5750 13009180	- 180	1	9	180	103	16	26.8	46	35	50	40	3°	10,000	1.1	
5750 13010150	HSK40A -PHC10S - 150	1	10	150	72	17	24.6	46	35	50	40	3°	16,000	1.0	
5750 13010165	- 165	1	10	165	88	17	26.3	46	35	50	40	3°	12,000	1.0	
5750 13010180	- 180	1	10	180	103	17	27.8	46	35	50	40	3°	10,000	1.1	
5750 13011150	HSK40A -PHC11S - 150	1	11	150	73	18	25.7	46	35	50	40	3°	16,000	1.0	
5750 13011165	- 165	1	11	165	88	18	27.3	46	35	50	40	3°	12,000	1.1	
5750 13011180	- 180	1	11	180	104	18	29.0	46	35	50	40	3°	10,000	1.1	
5750 13012150	HSK40A -PHC12S - 150	1	12	150	73	19	26.7	46	35	70	40	3°	15,000	1.0	
5750 13012165	- 165	1	12	165	88	19	28.3	46	35	70	40	3°	12,000	1.1	
5750 13012180	- 180	1	12	180	104	19	30.0	46	35	70	40	3°	10,000	1.1	
5750 14003105	HSK50A -PHC03S - 105	1	3	105	30	11	14.2	46	42	52	18	3°	25,000	0.6	L-4T
5750 14003150	- 150	1	3	150	71	11	18.5	46	42	97	18	3°	18,000	0.9	
5750 14004105	HSK50A -PHC04S - 105	1	4	105	30	11	14.2	46	42	52	24	3°	25,000	0.6	
5750 14004150	- 150	1	4	150	71	11	18.5	46	42	97	24	3°	18,000	0.9	
5750 14006150	HSK50A -PHC06S - 150	1	6	150	71	13	20.5	46	42	37	29	3°	18,000	1.1	
5750 14006165	- 165	1	6	165	87	13	22.2	46	42	37	29	3°	13,000	1.1	
5750 14006180	- 180	1	6	180	102	13	23.7	46	42	37	29	3°	11,000	1.2	
5750 14007150	HSK50A -PHC07S - 150	1	7	150	71	14	21.5	46	42	37	29	3°	18,000	1.1	
5750 14007165	- 165	1	7	165	87	14	23.2	46	42	37	29	3°	13,000	1.2	
5750 14007180	- 180	1	7	180	102	14	24.7	46	42	37	29	3°	11,000	1.2	
5750 14008150	HSK50A -PHC08S - 150	1	8	150	72	15	22.6	46	42	50	29	3°	18,000	1.1	
5750 14008165	- 165	1	8	165	87	15	24.2	46	42	50	29	3°	13,000	1.2	
5750 14008180	- 180	1	8	180	103	15	25.8	46	42	50	29	3°	11,000	1.2	
5750 14009150	HSK50A -PHC09S - 150	1	9	150	72	16	23.6	46	42	50	40	3°	18,000	1.1	
5750 14009165	- 165	1	9	165	87	16	25.2	46	42	50	40	3°	13,000	1.2	
5750 14009180	- 180	1	9	180	103	16	26.8	46	42	50	40	3°	11,000	1.3	
5750 14010150	HSK50A -PHC10S - 150	1	10	150	72	17	24.6	46	42	50	40	3°	18,000	1.2	
5750 14010165	- 165	1	10	165	88	17	26.3	46	42	50	40	3°	13,000	1.2	
5750 14010180	- 180	1	10	180	103	17	27.8	46	42	50	40	3°	11,000	1.3	
5750 14011150	HSK50A -PHC11S - 150	1	11	150	73	18	25.7	46	42	50	40	3°	17,000	1.2	
5750 14011165	- 165	1	11	165	88	18	27.3	46	42	50	40	3°	13,000	1.2	
5750 14011180	- 180	1	11	180	104	18	29.0	46	42	50	40	3°	11,000	1.3	
5750 14012150	HSK50A -PHC12S - 150	1	12	150	73	19	26.7	46	42	70	40	3°	16,000	1.2	
5750 14012165	- 165	1	12	165	88	19	28.3	46	42	70	40	3°	13,000	1.2	
5750 14012180	- 180	1	12	180	104	19	30.0	46	42	70	40	3°	10,000	1.3	
5750 15003090	HSK63A -PHC03S - 90 -H	2	3	90	30	11	14.2	46	-	52	18	3°	20,500	0.9	L-4T
5750 15003135	- 135 -H	2	3	135	71	11	18.5	46	-	97	18	3°	20,500	1.2	
5750 15004090	HSK63A -PHC04S - 90 -H	2	4	90	30	11	14.2	46	-	52	24	3°	20,500	0.8	
5750 15004135	- 135 -H	2	4	135	71	11	18.5	46	-	97	24	3°	20,500	1.2	
5750 15006135	HSK63A -PHC06S - 135 -H	2	6	135	71	13	20.5	46	-	37	29	3°	20,500	1.2	
5750 15006150	- 150 -H	2	6	150	87	13	22.2	46	-	37	29	3°	16,000	1.3	
5750 15006165	- 165 -H	2	6	165	102	13	23.7	46	-	37	29	3°	12,000	1.3	
5750 15006180	- 180 -H	2	6	180	118	13	25.4	46	-	37	29	3°	10,000	1.4	





## Metric Sizes

Unit : Metric

Code	Model	d	L	L <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	ℓ	ℓ <sub>1</sub>	α	Max. min <sup>-1</sup>	Kg	Wrench (Sold separately)
1490 0 ※ 203100	UTS6350 -PHC03S -100	3	100	30	11	14.2	46	52	18	3°	20,000	1.1	PHC-A
1490 0 ※ 203145	-145	3	145	71	11	18.5	46	97	18	3°	20,000	1.4	
1490 0 ※ 204100	UTS6350 -PHC04S -100	4	100	30	11	14.2	46	52	24	3°	20,000	1.1	
1490 0 ※ 204145	-145	4	145	71	11	18.5	46	97	24	3°	19,000	1.4	
1490 0 ※ 206150	UTS6350 -PHC06S -150	6	150	71	13	20.5	46	37	29	3°	20,000	1.5	
1490 0 ※ 206165	-165	6	165	87	13	22.2	46	37	29	3°	15,000	1.6	
1490 0 ※ 206180	-180	6	180	102	13	23.7	46	37	29	3°	12,000	1.6	
1490 0 ※ 206195	-195	6	195	118	13	25.4	46	37	29	3°	10,000	1.7	
1490 0 ※ 207150	UTS6350 -PHC07S -150	7	150	71	14	21.5	46	37	29	3°	20,000	1.5	
1490 0 ※ 207165	-165	7	165	87	14	23.2	46	37	29	3°	15,000	1.6	
1490 0 ※ 207180	-180	7	180	102	14	24.7	46	37	29	3°	12,000	1.6	
1490 0 ※ 207195	-195	7	195	118	14	26.4	46	37	29	3°	10,000	1.7	
1490 0 ※ 208150	UTS6350 -PHC08S -150	8	150	72	15	22.6	46	50	29	3°	20,000	1.5	
1490 0 ※ 208165	-165	8	165	87	15	24.2	46	50	29	3°	15,000	1.6	
1490 0 ※ 208180	-180	8	180	103	15	25.8	46	50	29	3°	12,000	1.6	
1490 0 ※ 208195	-195	8	195	118	15	27.4	46	50	29	3°	10,000	1.7	
1490 0 ※ 209150	UTS6350 -PHC09S -150	9	150	72	16	23.6	46	50	40	3°	20,000	1.5	
1490 0 ※ 209165	-165	9	165	87	16	25.2	46	50	40	3°	15,000	1.6	
1490 0 ※ 209180	-180	9	180	103	16	26.8	46	50	40	3°	12,000	1.7	
1490 0 ※ 209195	-195	9	195	118	16	28.4	46	50	40	3°	10,000	1.7	
1490 0 ※ 210150	UTS6350 -PHC10S -150	10	150	72	17	24.6	46	50	40	3°	20,000	1.6	
1490 0 ※ 210165	-165	10	165	88	17	26.3	46	50	40	3°	15,000	1.6	
1490 0 ※ 210180	-180	10	180	103	17	27.8	46	50	40	3°	12,000	1.7	
1490 0 ※ 210195	-195	10	195	119	17	29.5	46	50	40	3°	10,000	1.7	
1490 0 ※ 211150	UTS6350 -PHC11S -150	11	150	73	18	25.7	46	50	40	3°	19,000	1.6	
1490 0 ※ 211165	-165	11	165	88	18	27.3	46	50	40	3°	15,000	1.6	
1490 0 ※ 211180	-180	11	180	104	18	29.0	46	50	40	3°	12,000	1.7	
1490 0 ※ 211195	-195	11	195	119	18	30.5	46	50	40	3°	10,000	1.8	
1490 0 ※ 212150	UTS6350 -PHC12S -150	12	150	73	19	26.7	46	70	40	3°	19,000	1.6	
1490 0 ※ 212165	-165	12	165	88	19	28.3	46	70	40	3°	15,000	1.6	
1490 0 ※ 212180	-180	12	180	104	19	30.0	46	70	40	3°	12,000	1.7	
1490 0 ※ 212195	-195	12	195	119	19	31.5	46	70	40	3°	10,000	1.8	
1490 0※216150	UTS6350 -PHC16S -150	16	150	72	23	30.6	52.5	75	40	3°	18,000	1.6	
1490 0※216180	-180	16	180	103	23	33.8	52.5	80	40	3°	12,000	1.8	
1490 0※216195	-195	16	195	119	23	35.5	52.5	80	40	3°	10,000	1.9	
1490 0※220150	UTS6350 -PHC20S -150	20	150	63	28	34.7	62	70	40	3°	18,000	2.1	
1490 0※220180	-180	20	180	93	28	37.8	62	100	40	3°	14,000	2.3	
1490 0※220195	-195	20	195	109	28	39.5	62	100	40	3°	12,000	2.4	
1490 0※225150	UTS6350 -PHC25S -150	25	150	65	37	43.9	62	70	50	3°	16,000	2.1	
1490 0※225180	-180	25	180	96	37	47.1	62	100	50	3°	14,000	2.4	
1490 0※225195	-195	25	195	112	37	48.8	62	110	50	3°	12,000	2.6	

L-4T

L-6T

PHC-A

PHC-S

PHZ-S

When placing an order, please specify high or low pressure.  
For high pressure type, please add (-H) on end of the description.

1. Tool shank diameter tolerance must be within h6.
2. Permissible speed is greatly affected by the stiffness of the machine spindle and the balance of the cutting tool.  
Gradually increase from a low speed, and use at the proper speed.

### Ordering Example

#### Low pressure type

0 ~ 1.0MPa (UTS10080 : 0 ~ 2.0MPa)

**UTS6350 - PHC 12 S - 150**

Shank size

I.D. (d)

Projection length (L)

### Ordering Example

#### High pressure type

1.1 ~ 7.0MPa (UTS10080 : 2.1 ~ 7.0MPa)

**UTS6350 - PHC 12 S - 150 - H**

Shank size

I.D. (d)

Projection length (L)

High pressure type

### Tightening torque ( Torque wrench : p.45 )

Model	I.D. (d)	Tightening torque (Nm)
	mm	
PHC-S	06 ~ 12, 16	9 ~ 10
PHC-S	20 ~ 25	23 ~ 24

Hex wrench

P. 45



# Slim Hydro "R" Zero Holder - PHZ-S



**Use for**

Application inside of work piece.

Jig

High precision cutting without interference with a jig.

High precision cutting in a deep/narrow hole.

## Benefits of Slim Hydro Chuck

**Tool pre-set without height offset**

Down

Ordinary Collet Holder

Sustained

Slim Hydro "R" Zero Holder

**Easy! Quick! Simple Clamping!**

Simple one hand clamping operation with a hex wrench.

**"Dual clamping points system" for stable and high precision clamping.**

Unstable

Stable

Oil chamber

## Anti-vibration effect

High pressured oil chamber around the chucking sleeve absorbs cutting vibrations.

**Slim Type Shrink Fit Chuck**

**Vibration Test**

Acceleration (m/s<sup>2</sup>)

Seconds

Still Vibrating

Solid metal body does not absorb cutting vibration.

**Slim Hydro "R" Zero Holder**

**Vibration Test**

Acceleration (m/s<sup>2</sup>)

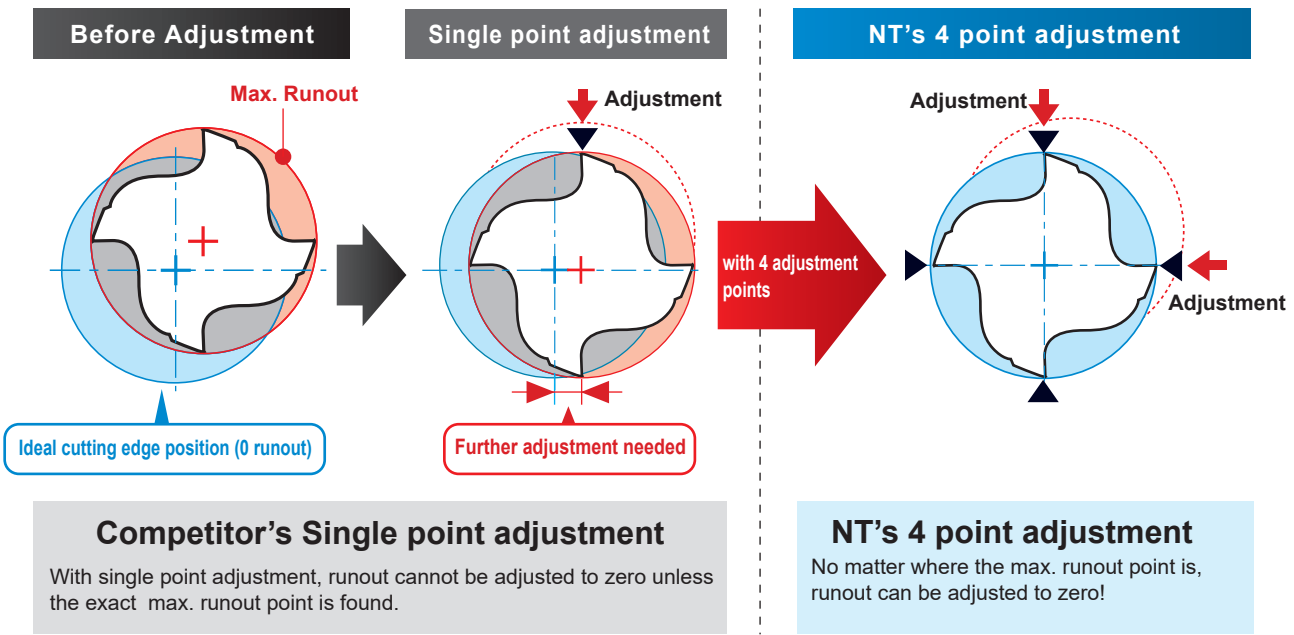
Seconds

Vibration stopped

Oil chamber around the chucking sleeve absorbs cutting vibrations.

# "R" Zero Holder

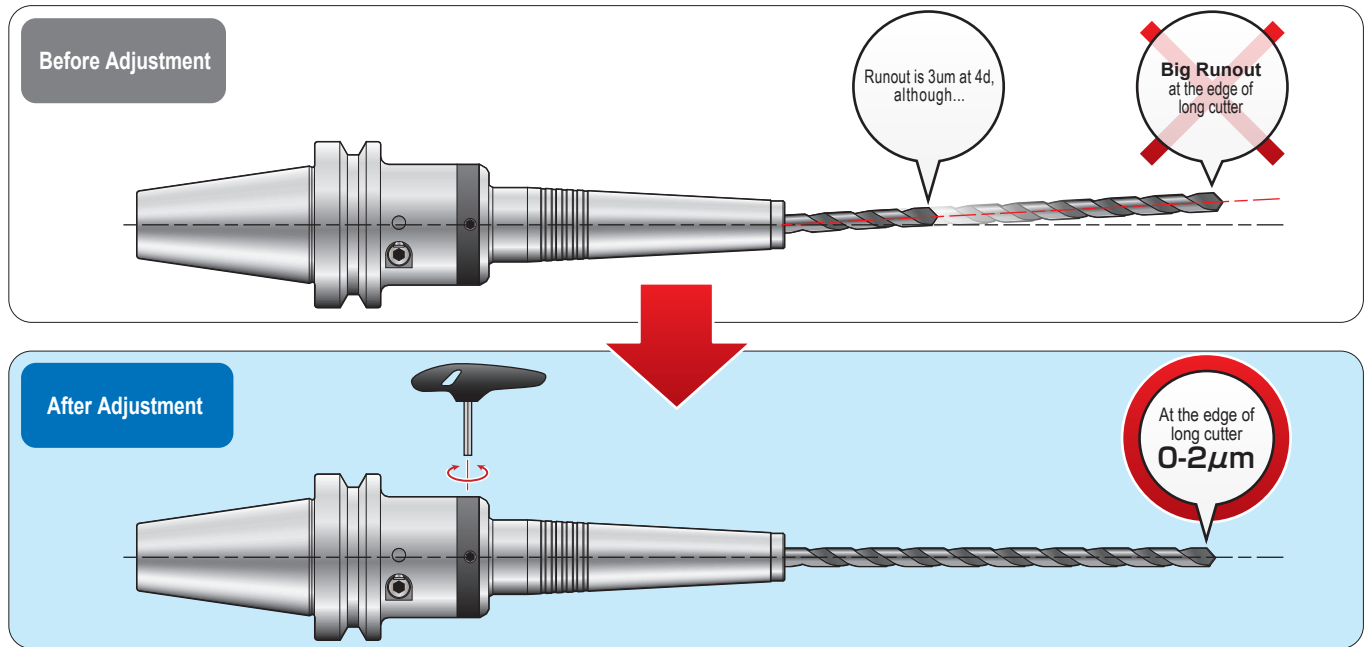
## NT's original and accurate 4 point adjustment system



## Simple Operation- Runout of the cutting edge can be adjusted to 0 to 2 μm by simply tightening 4 adjustment screws.

Even if the runout at 4d is in allowable range, runout at the actual cutting edge is much larger as the projection length of the cutter gets longer.

NT's "R" Zero holder provides invariant hole diameter, better surface roughness and longer tool life by adjusting runout at the cutting edge as closely as to zero.



Longer tool life

Better surface roughness

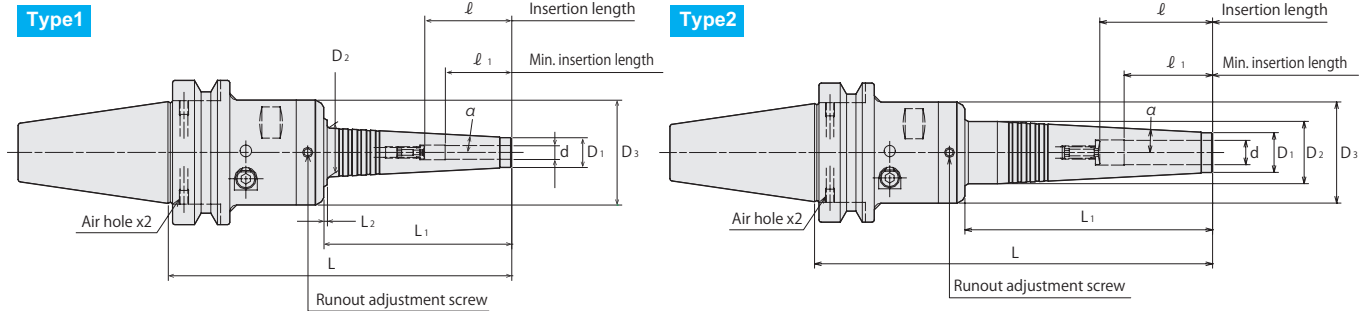
Invariant hole diameter

# PHZ · S



## Slim Hydro "R" Zero Holder

● Slim Hydro Chuck with "R" zero runout adjustment function. Suitable for high precision cutting in a deep/narrow hole.



### Metric Sizes

Unit : Metric

Code	Model	Type	d	L	L <sub>1</sub>	L <sub>2</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	ℓ	ℓ <sub>1</sub>	α	Max. min <sup>-1</sup>	Kg	Hex wrench for the actuating screw (Sold separately)	Hex wrench for runout adjustment screw (Included)
3600 00106150	BT30 -PHZ06S -150	1	6	150	82	1.5	13	21.5	46	37	29	3°	16,000	1.1	L-4T	L-3T-S
3600 00106180	-180	1	6	180	112	1.5	13	24.6	46	37	29	3°	10,000	1.2		
3600 00107150	BT30 -PHZ07S -150	1	7	150	82	1.5	14	22.5	46	37	29	3°	16,000	1.1		
3600 00107180	-180	1	7	180	112	1.5	14	25.6	46	37	29	3°	10,000	1.2		
3600 00108150	BT30 -PHZ08S -150	1	8	150	82	1.5	15	23.5	46	50	29	3°	16,000	1.1		
3600 00108180	-180	1	8	180	112	1.5	15	26.6	46	50	29	3°	10,000	1.3		
3600 00109150	BT30 -PHZ09S -150	1	9	150	82	1.5	16	24.5	46	50	40	3°	15,000	1.1		
3600 00109180	-180	1	9	180	112	—	16	27.6	46	50	40	3°	10,000	1.3		
3600 00110150	BT30 -PHZ10S -150	1	10	150	82	1.5	17	25.5	46	50	40	3°	15,000	1.2		
3600 00110180	-180	2	10	180	112	—	17	28.2	46	50	40	3°	10,000	1.3		
3600 00111150	BT30 -PHZ11S -150	1	11	150	82	1.5	18	26.5	46	50	40	3°	15,000	1.2		
3600 00111180	-180	2	11	180	112	—	18	28.2	46	50	40	3°	10,000	1.3		
3600 00112150	BT30 -PHZ12S -150	1	12	150	82	—	19	27.4	46	70	40	3°	15,000	1.1		
3600 00112180	-180	2	12	180	112	—	19	28.2	46	70	40	3°	10,000	1.3		
3600 00306150	BT40 -PHZ06S -150	1	6	150	82	1.5	13	21.5	46	37	29	3°	17,000	1.6		
3600 00306180	-180	1	6	180	112	1.5	13	24.6	46	37	29	3°	10,000	1.8		
3600 00307150	BT40 -PHZ07S -150	1	7	150	82	1.5	14	22.5	46	37	29	3°	16,000	1.6		
3600 00307180	-180	1	7	180	112	1.5	14	25.6	46	37	29	3°	10,000	1.8		
3600 00308150	BT40 -PHZ08S -150	1	8	150	82	1.5	15	23.5	46	50	29	3°	16,000	1.6		
3600 00308180	-180	1	8	180	112	1.5	15	26.6	46	50	29	3°	10,000	1.8		
3600 00309150	BT40 -PHZ09S -150	1	9	150	82	1.5	16	24.5	46	50	40	3°	16,000	1.6		
3600 00309180	-180	1	9	180	112	—	16	27.6	46	50	40	3°	10,000	1.8		
3600 00310150	BT40 -PHZ10S -150	1	10	150	82	1.5	17	25.5	46	50	40	3°	16,000	1.6		
3600 00310180	-180	2	10	180	112	—	17	28.2	46	50	40	3°	10,000	1.8		
3600 00311150	BT40 -PHZ11S -150	1	11	150	82	1.5	18	26.5	46	50	40	3°	16,000	1.7		
3600 00311180	-180	2	11	180	112	—	18	28.2	46	50	40	3°	10,000	1.8		
3600 00312150	BT40 -PHZ12S -150	1	12	150	82	—	19	27.4	46	70	40	3°	15,000	1.7		
3600 00312180	-180	2	12	180	112	—	19	28.2	46	70	40	3°	10,000	1.8		
3600 00506165	BT50 -PHZ06S -165	1	6	165	82	1.5	13	21.5	46	37	29	3°	15,000	4.2		
3600 00506195	-195	1	6	195	112	1.5	13	24.6	46	37	29	3°	10,000	4.3		
3600 00507165	BT50 -PHZ07S -165	1	7	165	82	1.5	14	22.5	46	37	29	3°	15,000	4.2		
3600 00507195	-195	1	7	195	112	1.5	14	25.6	46	37	29	3°	10,000	4.3		
3600 00508165	BT50 -PHZ08S -165	1	8	165	82	1.5	15	23.5	46	50	29	3°	15,000	4.2		
3600 00508195	-195	1	8	195	112	1.5	15	26.6	46	50	29	3°	10,000	4.3		
3600 00509165	BT50 -PHZ09S -165	1	9	165	82	1.5	16	24.5	46	50	40	3°	15,000	4.2		
3600 00509195	-195	1	9	195	112	—	16	27.6	46	50	40	3°	10,000	4.4		
3600 00510165	BT50 -PHZ10S -165	1	10	165	82	1.5	17	25.5	46	50	40	3°	15,000	4.2		
3600 00510195	-195	2	10	195	112	—	17	28.2	46	50	40	3°	10,000	4.4		
3600 00511165	BT50 -PHZ11S -165	1	11	165	82	1.5	18	26.5	46	50	40	3°	15,000	4.2		
3600 00511195	-195	2	11	195	112	—	18	28.2	46	50	40	3°	10,000	4.4		
3600 00512165	BT50 -PHZ12S -165	1	12	165	82	—	19	27.4	46	70	40	3°	15,000	4.2		
3600 00512195	-195	2	12	195	112	—	19	28.2	46	70	40	3°	10,000	4.4		

1. Tool shank diameter tolerance must be within h6.
2. Hex-head screws are necessary to plug air hole for center through coolant feed.
3. Permissible speed is greatly affected by the stiffness of the machine spindle and the balance of the cutting tool. Gradually increase from a low speed, and use at the proper speed.

#### Tightening torque ( Torque wrench : p.45 )

Model	I.D. (d)		Tightening torque (Nm)
	mm	inch	
PHZ-S	06 ~ 12	—	9 ~ 10

Hex wrench

P. 45



#### Ordering Example

**BT40 - PHZ 8 S - 150**  
 Shank size I.D. (d) Projection length (L)

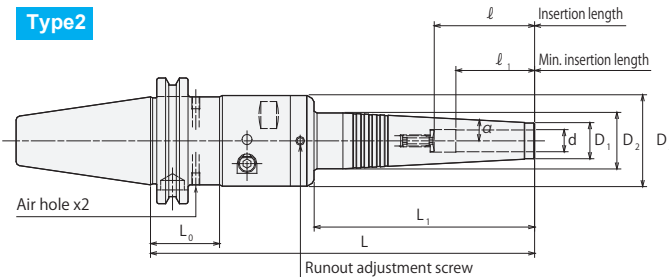
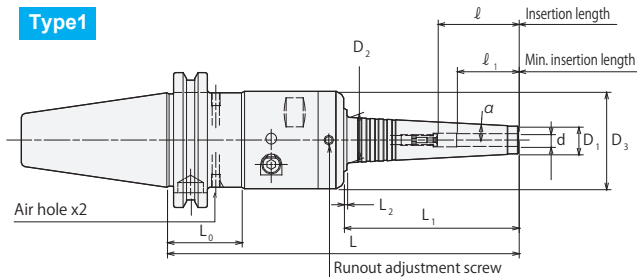


# PHZ · S New



## Slim Hydro "R" Zero Holder

- Slim Hydro Chuck with "R" zero runout adjustment function. Suitable for high precision cutting in a deep/narrow hole.

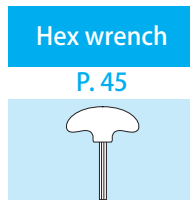


## Metric Sizes Unit : Metric

Code	Model	Type	d	L	L1	L2	D1	D2	D3	L0	ℓ	ℓ1	α	Max. min <sup>1</sup>	Kg	Hex wrench for the actuating screw (Sold separately)	Hex wrench for runout adjustment screw (Option)
1810 00406150	<b>CAT40 -PHZ06S -150</b>	1	6	150	67	1.5	13	19.9	46	35.05	37	29	3°	17,000	-	L-4T	L-3T
1810 00406180	<b>-180</b>	1	6	180	97	1.5	13	23.1	46	35.05	37	29	3°	10,000	-		
1810 00407150	<b>CAT40 -PHZ07S -150</b>	1	7	150	67	1.5	14	20.9	46	35.05	37	29	3°	16,000	-		
1810 00407180	<b>-180</b>	1	7	180	97	1.5	14	24.1	46	35.05	37	29	3°	10,000	-		
1810 00408150	<b>CAT40 -PHZ08S -150</b>	1	8	150	67	1.5	15	21.9	46	35.05	50	29	3°	16,000	-		
1810 00408180	<b>-180</b>	1	8	180	97	1.5	15	25.1	46	35.05	50	29	3°	10,000	-		
1810 00409150	<b>CAT40 -PHZ09S -150</b>	1	9	150	67	1.5	16	22.9	46	35.05	50	40	3°	16,000	-		
1810 00409180	<b>-180</b>	1	9	180	97	1.5	16	26.1	46	35.05	50	40	3°	10,000	-		
1810 00410150	<b>CAT40 -PHZ10S -150</b>	1	10	150	67	1.5	17	23.9	46	35.05	50	40	3°	16,000	-		
1810 00410180	<b>-180</b>	1	10	180	97	1.5	17	27.1	46	35.05	50	40	3°	10,000	-		
1810 00411150	<b>CAT40 -PHZ11S -150</b>	1	11	150	67	1.5	18	24.9	46	35.05	50	40	3°	16,000	-		
1810 00411180	<b>-180</b>	1	11	180	97	—	18	28	46	35.05	50	40	3°	10,000	-		
1810 00412150	<b>CAT40 -PHZ12S -150</b>	1	12	150	67	1.5	19	25.9	46	35.05	70	40	3°	15,000	-		
1810 00412180	<b>-180</b>	2	12	180	97	—	19	28.2	46	35.05	70	40	3°	10,000	-		

1. Tool shank diameter tolerance must be within h6.
2. Do not leave the holder with actuating screw tightened when the chuck is empty.
3. Hex-head screws (included) are necessary to plug air hole for center through coolant feed.

Tightening torque ( Torque wrench : p.45 )			
Model	I.D. (d)		Tightening torque (Nm)
	mm	inch	
PHZ-S	06 ~ 12	—	9 ~ 10



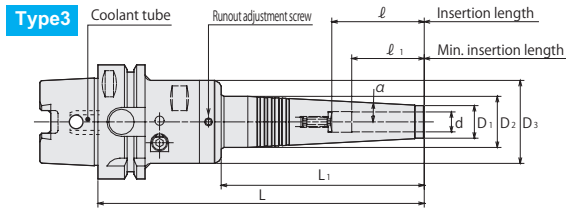
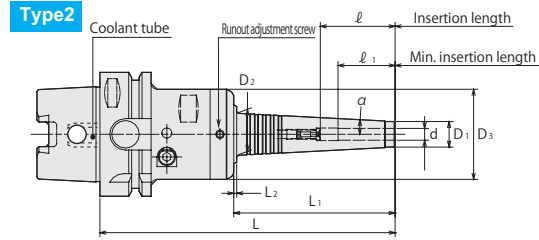
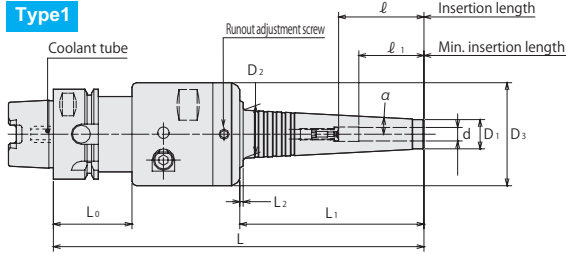
**Ordering Example**  
**CAT40 - PHZ 12 S - 150**  
 Shank size I.D. (d) Projection length (L)

# PHZ·S



## Slim Hydro "R" Zero Holder

● Slim Hydro Chuck with "R" zero runout adjustment function. Suitable for high precision cutting in a deep/narrow hole.



● Coolant tube is included.

**Tightening torque ( Torque wrench : p.45)**

Model	I.D. (d)		Tightening torque (Nm)
	mm	inch	
PHZ·S	06 ~ 12	—	9 ~ 10

### Metric Sizes

Unit : Metric

Code	Model	Type	d	L	L <sub>1</sub>	L <sub>2</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	L <sub>0</sub>	ℓ	ℓ <sub>1</sub>	α	Max. min <sup>-1</sup>	Kg	Hex wrench for the actuating screw (Sold separately)	Hex wrench for runout adjustment screw (Included)		
5930 13006165	HSK40A -PHZ06S -165	1	6	165	82	1.5	13	21.5	46	35	37	29	3°	13,000	1.1	L-4T	L-3T-S		
5930 13007165	HSK40A -PHZ07S -165	1	7	165	82	1.5	14	22.5	46	35	37	29	3°	13,000	1.1				
5930 13008165	HSK40A -PHZ08S -165	1	8	165	82	1.5	15	23.5	46	35	50	29	3°	13,000	1.1				
5930 13009165	HSK40A -PHZ09S -165	1	9	165	82	1.5	16	24.5	46	35	50	40	3°	13,000	1.1				
5930 13010165	HSK40A -PHZ10S -165	1	10	165	82	1.5	17	25.5	46	35	50	40	3°	12,000	1.1				
5930 13011165	HSK40A -PHZ11S -165	1	11	165	82	1.5	18	26.5	46	35	50	40	3°	12,000	1.1				
5930 13012165	HSK40A -PHZ12S -165	1	12	165	82	—	19	27.4	46	35	70	40	3°	12,000	1.1				
5930 75006150	HSK63A -PHZ06S -150 -H	2	6	150	82	1.5	13	21.5	46	—	37	29	3°	16,000	1.3			L-4T	L-3T-S
5930 75006180	-180 -H	2	6	180	112	1.5	13	24.6	46	—	37	29	3°	10,000	1.5				
5930 75007150	HSK63A -PHZ07S -150 -H	2	7	150	82	1.5	14	22.5	46	—	37	29	3°	16,000	1.3				
5930 75007180	-180 -H	2	7	180	112	1.5	14	25.6	46	—	37	29	3°	10,000	1.4				
5930 75008150	HSK63A -PHZ08S -150 -H	2	8	150	82	1.5	15	23.5	46	—	50	29	3°	16,000	1.4				
5930 75008180	-180 -H	2	8	180	112	1.5	15	26.6	46	—	50	29	3°	10,000	1.6				
5930 75009150	HSK63A -PHZ09S -150 -H	2	9	150	82	1.5	16	24.5	46	—	50	40	3°	16,000	1.4				
5930 75009180	-180 -H	2	9	180	112	—	16	27.6	46	—	50	40	3°	10,000	1.5				
5930 75010150	HSK63A -PHZ10S -150 -H	2	10	150	82	1.5	17	25.5	46	—	50	40	3°	16,000	1.4				
5930 75010180	-180 -H	3	10	180	112	—	17	28.2	46	—	50	40	3°	10,000	1.5				
5930 75011150	HSK63A -PHZ11S -150 -H	2	11	150	82	1.5	18	26.5	46	—	50	40	3°	16,000	1.4				
5930 75011180	-180 -H	3	11	180	112	—	18	28.2	46	—	50	40	3°	10,000	1.6				
5930 75012150	HSK63A -PHZ12S -150 -H	2	12	150	82	—	19	27.4	46	—	70	40	3°	15,000	1.4				
5930 75012180	-180 -H	3	12	180	112	—	19	28.2	46	—	70	40	3°	10,000	1.5				
5930 77006165	HSK100A -PHZ06S -165 -H	2	6	165	82	1.5	13	21.5	46	—	37	29	3°	12,500	2.9	L-4T	L-3T-S		
5930 77006195	-195 -H	2	6	195	112	1.5	13	24.6	46	—	37	29	3°	9,000	3.0				
5930 77007165	HSK100A -PHZ07S -165 -H	2	7	165	82	1.5	14	22.5	46	—	37	29	3°	12,500	2.9				
5930 77007195	-195 -H	2	7	195	112	1.5	14	25.6	46	—	37	29	3°	9,000	3.1				
5930 77008165	HSK100A -PHZ08S -165 -H	2	8	165	82	1.5	15	23.5	46	—	50	29	3°	12,500	2.9				
5930 77008195	-195 -H	2	8	195	112	1.5	15	26.6	46	—	50	29	3°	9,000	3.1				
5930 77009165	HSK100A -PHZ09S -165 -H	2	9	165	82	1.5	16	24.5	46	—	50	40	3°	12,500	2.9				
5930 77009195	-195 -H	2	9	195	112	—	16	27.6	46	—	50	40	3°	10,000	3.1				
5930 77010165	HSK100A -PHZ10S -165 -H	2	10	165	82	1.5	17	25.5	46	—	50	40	3°	12,500	2.9				
5930 77010195	-195 -H	3	10	195	112	—	17	28.2	46	—	50	40	3°	9,000	3.1				
5930 77011165	HSK100A -PHZ11S -165 -H	2	11	165	82	1.5	18	26.5	46	—	50	40	3°	12,500	2.9				
5930 77011195	-195 -H	3	11	195	112	—	18	28.2	46	—	50	40	3°	9,000	3.0				
5930 77012165	HSK100A -PHZ12S -165 -H	2	12	165	82	—	19	27.4	46	—	70	40	3°	12,500	2.9				
5930 77012195	-195 -H	3	12	195	112	—	19	28.2	46	—	70	40	3°	9,000	3.0				

1. Tool shank diameter tolerance must be within h6.
2. Permissible speed is greatly affected by the stiffness of the machine spindle and the balance of the cutting tool. Gradually increase from a low speed, and use at the proper speed.

#### Ordering Example

Without manual clamp holes (HSK40A, HSK50A)

**HSK40A - PHZ 06 S - 165**  
 Shank size                      I.D. (d)                      Projection length (L)

#### Ordering Example

With manual clamp holes (HSK63A, HSK100A)

**HSK100A - PHZ 06 S - 165 - H**  
 Shank size                      I.D. (d)                      Projection length (L)                      With manual clamping hole

Hex wrench

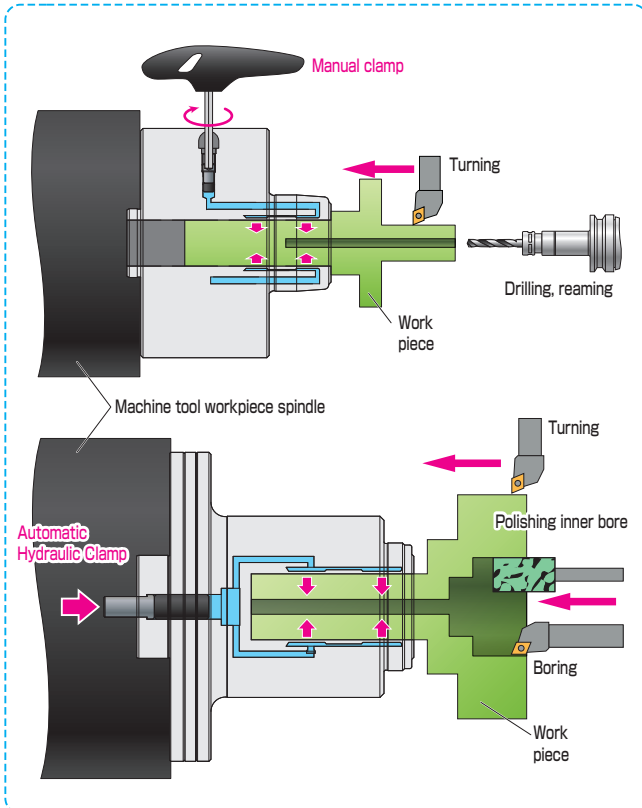
P.45



## You can take advantage of the unique features of the Hydro Clamp through a variety of applications!

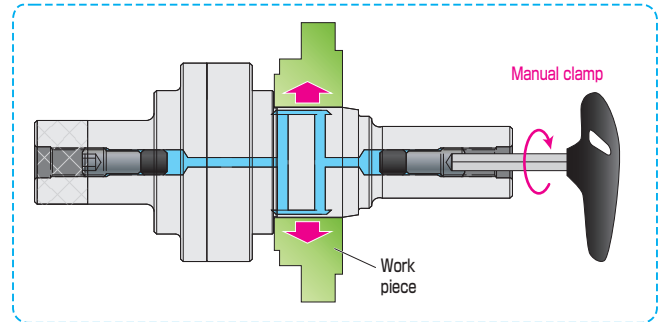
### As a high-precision work chuck!

- As a clamping jig for polishing and finishing on a lathe machine! \*Auto-clamping can be done using hydraulic cylinder.

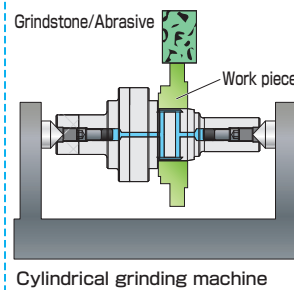


### As a high-precision mandrel arbor!

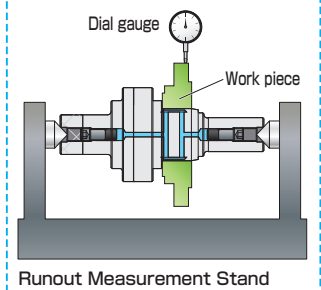
- For center arbors for both polishing and inspection.



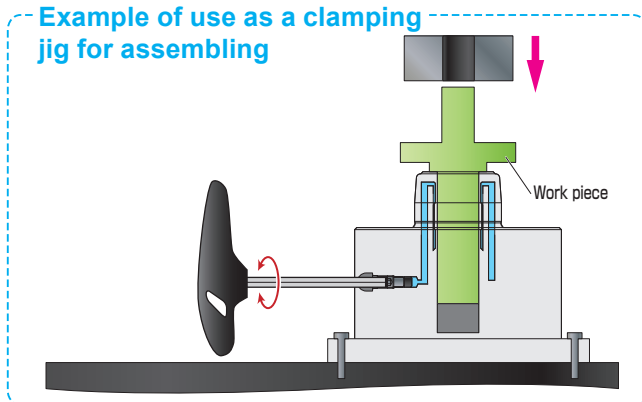
#### Grinding example



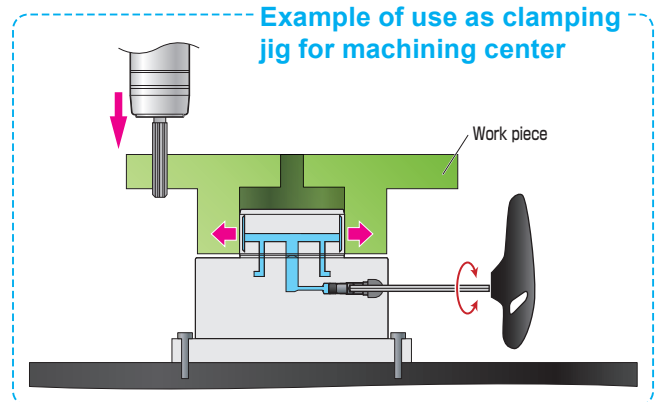
#### Example of measuring runout of both centers



### Example of use as a clamping jig for assembling



### Example of use as clamping jig for machining center

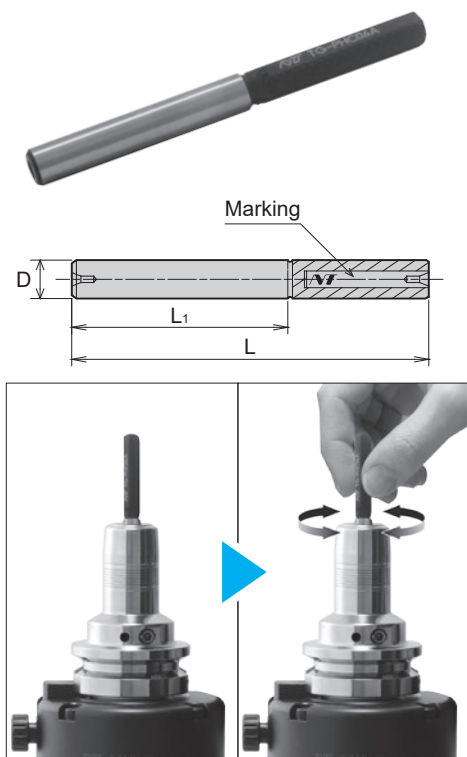


Please contact us for any requests!

- Limit of expansion and contraction is 0.2-0.3% of the diameter for  $\phi 50$  or less.
- To estimate the tolerance for a hole in a work piece, please use 0.1% of the diameter.
- Please consider using additional measures to prevent work piece slippage when used as a clamping jig.

## Torque Check Gauge

PHC-A PHC-S PHZ-S



### Metric Sizes

Unit : Metric

Code	Model	D	L	L <sub>1</sub>	Chuck I.D.
3934 70000003	TG-PHC03	3	50	25.5	3mm
3934 70000004	TG-PHC04	4	55	30.5	4mm
3934 70000006	TG-PHC06	6	65	35	6mm
3934 70000007	TG-PHC07	7	65	35	7mm
3934 70000008	TG-PHC08	8	65	35	8mm
3934 70000009	TG-PHC09	9	76	46	9mm
3934 70000010	TG-PHC10	10	76	46	10mm
3934 70000011	TG-PHC11	11	76	46	11mm
3934 70000012	TG-PHC12	12	76	46	12mm
3934 70000013	TG-PHC13	13	76	46	13mm
3934 70000014	TG-PHC14	14	76	46	14mm
3934 70000015	TG-PHC15	15	76	46	15mm
3934 70000016	TG-PHC16	16	76	46	16mm
3934 70000020	TG-PHC20	20	76	46	20mm
3934 70000025	TG-PHC25	25	86	56	25mm
3934 70000032	TG-PHC32	32	101	71	32mm

### Inch Sizes

Unit : Metric

Code	Model	D	L	L <sub>1</sub>	Chuck I.D.
3934 70000250	TG-PHC0250	6.35	65	35	0.250"
3934 70000312	TG-PHC0312	7.938	65	35	0.312"
3934 70000500	TG-PHC0500	12.7	65	35	0.500"
3934 70000625	TG-PHC0625	15.875	76	46	0.625"
3934 70000750	TG-PHC0750	19.05	76	46	0.750"
3934 70001000	TG-PHC1000	25.4	76	46	1.000"
3934 70001250	TG-PHC1250	31.75	76	46	1.250"

If the torque check gauge can't be rotated with your fingers, there is no loss of gripping force.

1. Please perform the gripping force check at an ambient temperature of 20-25°C
2. Use torque check gauge to test gripping force by hand. Please do not remove the torque gauge any other way.
3. When you clamp the torque check gauge, make sure the gauge is past the minimum insertion length.
4. This cannot be used for HC type chucks.
5. For use with custom products, please contact NT Tool.

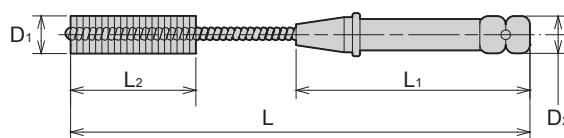
Ordering Example

**TG - PHC 03**  
I.D. size

## Inner Shank Cleaner Brush



PHC-A PHC-S PHZ-S



Code	Model	D <sub>1</sub>	D <sub>2</sub>	L	L <sub>1</sub>	L <sub>2</sub>	Chuck I.D.
3934 60000003	ISC - 03	4	8	100	56	30	3mm / 0.125"
3934 60000004	ISC - 04	5	8	100	56	30	4mm
3934 60000006	ISC - 06	8	8	100	56	30	6mm / 0.250"
3934 60000007	ISC - 07	9	8	110	56	30	7mm
3934 60000008	ISC - 08	10	8	110	56	40	8mm / 0.312"
3934 60000009	ISC - 09	11	8	110	56	40	9mm
3934 60000010	ISC - 10	12	8	110	56	40	10mm / 0.375"
3934 60000011	ISC - 11	13	8	130	56	40	11mm
3934 60000012	ISC - 12	14	8	130	56	40	12mm / 0.500"

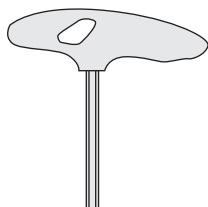
To clean inner shank of Hydro Chuck, etc.

※ One Inner shank cleaner brush per holder is included in the original product box.

Ordering Example

ISC - 03  
I.D. size

## Wrench



Code	Model
6080 00000030	L-3T
6080 00115576	L-4T
6080 00115577	L-5T
6080 00115578	L-6T



## Contactless Optical Tool Presetter

**Aegis-i** Series **AOTP**

*Making user-friendly products is our priority. Our new optical tool presetter designed completely in house is available now.*

**Customizable software to fit your needs!**

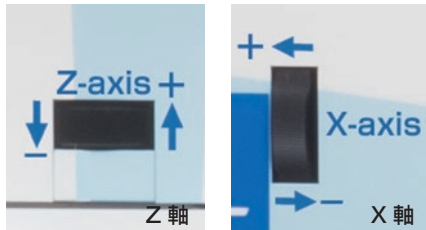
Please contact NT TOOL for details.

## User Friendly Mechanical Body



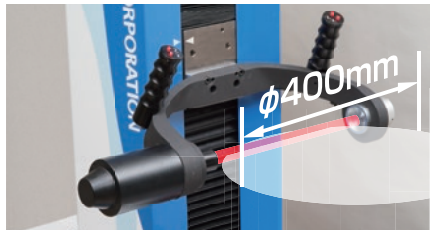
**Camera Handle**

Simple one hand operation. Movable in X-axis direction or Z-axis direction separately/simultaneously.



**Fine Adjustment Dial for Z-axis / X-axis**

Quick camera positioning by rotating the dial.



**Camera Arm**

Measurement up to dia.400mm is possible.



**Tightening of a collet holder is possible. (Up to 60Nm)**  
Move away the camera from the spindle when tightening.

Adjustment of cutting tool projection length and runout measurement / adjustment can be done in one spot.



**Adapter Tray Equipped**

Frequently used adapters and holders can be placed nearby.



**Cutting Tool Projection Length Adjustment (Option)**

An operation handle for cutting tool projection length adjustment can be added.

**Mechanical Clamp**

400kg air cylinder firmly clamps the tool holder. Good repetitive accuracy of tool holder clamping/unclamping.

**Motor driven spindle (Option)**

## Easy-to-use Software with Tutorial Function

**Suitable for non-experienced operators!**  
Tutorial can be displayed with one click.

Never operated? Don't worry!  
The machine guides you through what to do.

**Operation screen lined up in working sequences!**  
Well thought out layout of the operation screen minimizes operation.

**Just follow commands on the message screen!**  
Information about current operational status and function in use are shown in the special field.

Name	Model number	Comment	Calibrated time	X position	Z position	C position	X offset	Z offset	C offset
BT30-10			2014/03/06 10:38:00.00	48.981	0.000	0.000	0.000	0.000	0.000
BT40-9			2014/02/06 12:54:14.00	48.950	0.000	0.000	0.000	0.000	0.000
BT40-E			2014/02/06 19:54:31.00	48.989	0.014	0.000	0.000	0.000	0.000
BT50			2014/03/06 20:57:01.94	48.958	0.005	0.000	0.000	0.000	0.000
BT50-1			2014/02/20 14:17:27.00	48.969	0.000	0.000	0.000	0.000	0.000
KM_No.1			2014/02/16 10:47:25.00	48.462	0.000	0.000	0.000	0.000	0.000
BT50-2				48.462	0.000	0.000	0.000	0.000	0.000
KM_No.2				48.462	0.000	0.000	0.000	0.000	0.000
HSG03			2014/02/14 10:35:29.00	48.456	0.317	0.000	-6.168	10.333	0.000

## Basic Functions

### "Magic Eye" shows the positions of cutting edges

Target cutting edge is always clear even with endmills and facemill cutters.

#### Beginning of measurement

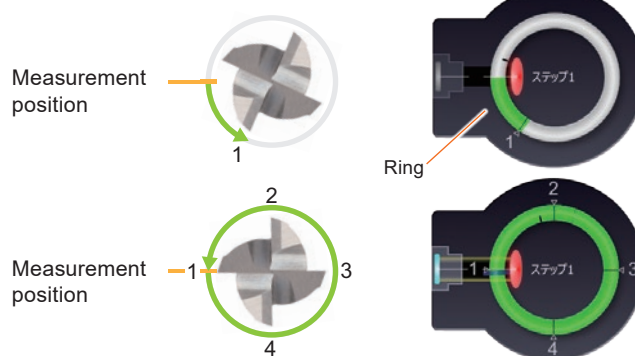
The ring turns green in accordance with cutting tool rotation. Numbers are assigned to the detected cutting edges.

#### Detection of cutting edges completed.

Shows position of cutting edges in real-time.

Actual cutting edges

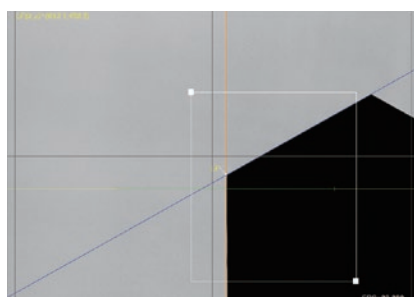
Magic eye



### Runout measurement of the cutting edge

Capture the area where you want to measure. Then, turn the spindle 360degrees.

Whether the measurement result met the target value can be shown by an ○ or ×, along with sound effects. The result can be also shown as a graph.



結果 ○

詳細 グラフ

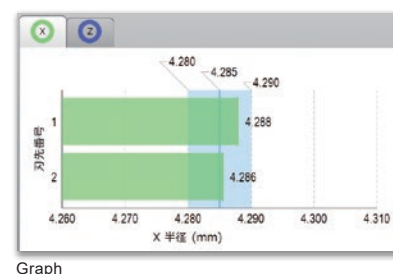
結果 ×

詳細 グラフ

○ : Good, × : Bad

	X軸	Z軸	半径R	角度A1	角度A2	C軸
上公差	0.005					
目標値	4.285					
下公差	-0.005					
1	4.288	193.699			176.4°	
2	4.286	193.687			355.9°	
Δ	0.002	0.012				

Measurement result



## "R" Zero Setter

Easy to measure runout accuracy

Equipped with rotary holder support

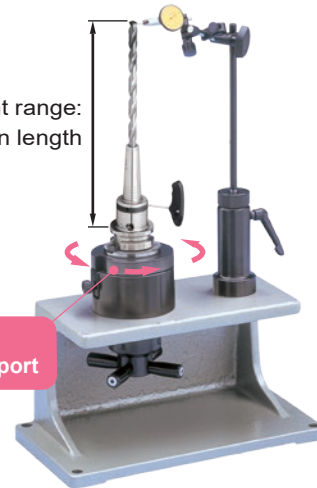
Available in various tool shank types.  
(BT, HSK, UTS, AHO, CAT, SK)

Equipped with holder clamping device

Tool change can be done when the holder is fixed / clamped with 4-8kN drawing pressure.

Measurement range:  
0-460mm in length

Rotary  
holder support



## NT TOOL, the best protection against rust!



Special rust proof coating on entire surface including the tapered shank (BT, CAT, SK only).

Prevent seizure and scoring caused by metal abrasion against the machine spindle.

Special coating protects spindle from abnormal wearing.

Safe with water-soluble coolant.

Some holders are excluded.

- **Protect spindle from damage**
- **Longer cutting tool life**
- **Maintain good accuracy**



Contactless Optical Tool Presetter

**Aegis-i** Series **SOTP**

*Simple and Compact!*

*High-performance presetter - affordable price!*

- *Contactless measurement does not damage cutting edges.*
- *Easy to use.*
- *A pneumatic cylinder clamps the holder securely in place.*

Measurement

X-axis :  $\varnothing$  300mm

Z-axis : 400mm

**NT USA CORPORATION** [www.nttoolusa.com](http://www.nttoolusa.com)

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2017.05