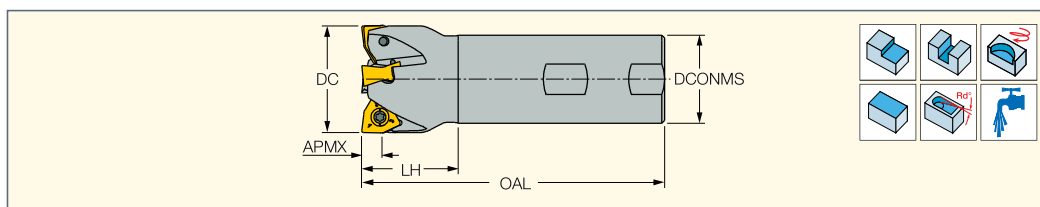




### H690 EWN-04

90° Endmills Carrying H690  
WNMU 0403 Double-Sided  
Trigonal Inserts with 6  
Helical Cutting Edges



Designation	DC	CICT <sup>(1)</sup>	APMX	OAL	LH	DCONMS	Shank <sup>(2)</sup>	RMPX <sup>°(3)</sup>	kg
H690 EWN D18-2-C16-R04	18.00	2	4.00	100.00	24.0	16.00	C	1.7	0.14
H690 EWN D18-2-C16-R04-B	18.00	2	4.00	160.00	24.0	16.00	C	1.7	0.21
H690 EWN D20-2-C19-R04-B	20.00	2	4.00	160.00	26.0	19.00	C	1.5	0.31
H690 EWN D20-2-C20-R04	20.00	2	4.00	110.00	26.0	20.00	C	1.5	0.42
H690 EWN D20-3-C19-R04-B	20.00	3	4.00	160.00	26.0	19.00	C	1.5	0.30
H690 EWN D20-3-C20-R04	20.00	3	4.00	110.00	26.0	20.00	C	1.5	0.24
H690 EWN D20-3-C20-R04-B	20.00	3	4.00	160.00	26.0	20.00	C	1.5	0.31
H690 EWN D20-3-W20-R04	20.00	3	4.00	85.00	26.0	20.00	W	1.5	0.16
H690 EWN D25-4-C25-R04	25.00	4	4.00	120.00	30.0	25.00	C	1.1	0.36
H690 EWN D25-5-C25-R04	25.00	5	4.00	120.00	30.0	25.00	C	1.1	0.37
H690 EWN D25-5-W25-R04	25.00	5	4.00	95.00	30.0	25.00	W	1.1	0.22
H690 EWN D32-5-C32-R04	32.00	5	4.00	130.00	35.0	32.00	C	0.8	0.68
H690 EWN D32-6-C32-R04	32.00	6	4.00	130.00	35.0	32.00	C	0.8	0.68
H690 EWN D32-6-W32-R04	32.00	6	4.00	110.00	35.0	32.00	W	0.8	0.56

• For user guide see pages 542-548

<sup>(1)</sup> Number of inserts

<sup>(2)</sup> C-Cylindrical, W-Weldon

<sup>(3)</sup> Maximum ramping angle

Inserts: H690 WNMU 0403

### Spare Parts

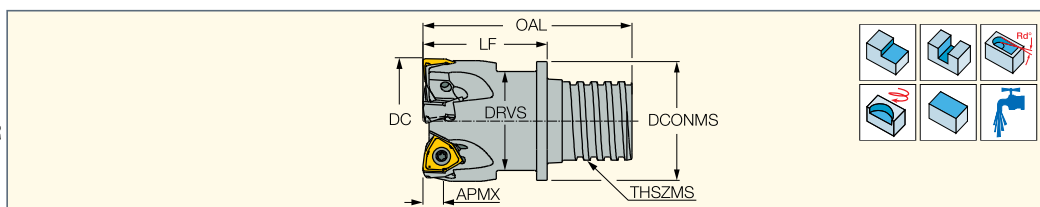
Designation		
H690 EWN-04	SR M2.5X6-T7-60	T-7/51



### MULTI-MASTER

### H690 EWN-MM-04

90° Endmills with a MULTI-MASTER  
Threaded Connection Carrying  
H690 WNMU 0403 Double-Sided  
Trigonal Inserts



Designation	DC	APMX	CICT <sup>(1)</sup>	LF	DCONMS	THSZMS	OAL	DRVS <sup>(2)</sup>	RMPX <sup>°(3)</sup>	TQ_3 <sup>(4)</sup>	kg
H690 EWN D20-3-MMT12-R04	20.00	4.00	3	20.00	18.30	T12	33.00	16.0	1.5	28	0.07
H690 EWN D25-5-MMT15-R04	25.00	4.00	5	25.00	23.90	T15	42.00	20.0	1.1	40	0.12

• Insert clamping screw must be lubricated every indexing. • For adaptation see page 44 • For user guide see pages 542-548

<sup>(1)</sup> Number of inserts

<sup>(2)</sup> Clamping wrench size

<sup>(3)</sup> Maximum ramping angle

<sup>(4)</sup> Tool tightening torque (Nxm)

Inserts: H690 WNMU 0403

Holders: MM S-A (stepped shanks) • MM S-A (straight shanks) • MM S-A-C# • MM S-A-HSK • MM S-A-N • MM S-A-SK • MM S-B (85° conical shanks)

• MM S-D (89° conical shanks) • MM S-ER • MM S-ER-H • MM TS-A

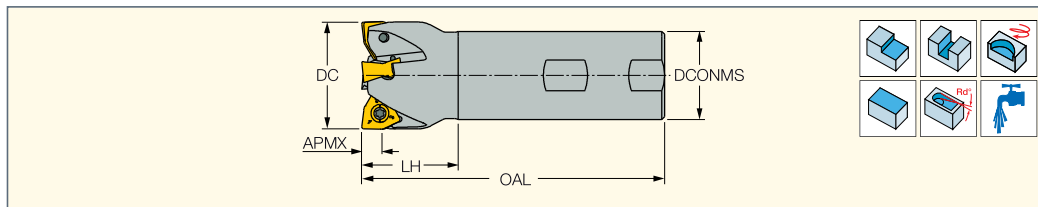
### Spare Parts

Designation		
H690 EWN-MM-04	SR M2.5X6-T7-60 <sup>(a)</sup>	T-7/51

<sup>(a)</sup> Tightening torque 0.9 Nxm

**H690 EWN-07**

90° Endmills Carrying H690  
 WNMU 0704 Double-Sided  
 Trigonal Inserts with 6  
 Helical Cutting Edges



Designation	DC	CICT <sup>(1)</sup>	APMX	OAL	LH	DCONMS	Shank <sup>(2)</sup>	RMPX <sup>(3)</sup>	kg				
H690 EWN D032-03-W32-R07	32.00	3	7.00	110.00	48.0	32.00	W	2.0	0.56	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	
H690 EWN D040-04-W32-R07	40.00	4	7.00	110.00	35.0	32.00	W	1.5	0.64	SR M4X0.7IP15	BLD IP15/S7	SW6-T-SH	

• Insert clamping screw must be lubricated every indexing. • Tightening torque 0.9 Nxm. • For user guide see pages 542-548

<sup>(1)</sup> Number of inserts

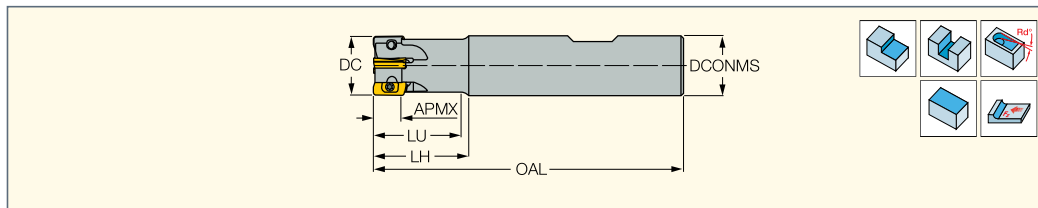
<sup>(2)</sup> C-cylindrical, W-Weldon

<sup>(3)</sup> Maximum ramping angle

**Inserts:** H690 WNHU/WNMU 0705

**HELIPUS**
**HP E90AN-07**

Endmills with HELIPLUS  
 HP ANKT 0702.. Inserts



Designation	DC	CICT <sup>(2)</sup>	LH	LU	OAL	APMX	DCONMS	Shank <sup>(3)</sup>	RMPX <sup>(4)</sup>	RMPX <sup>(5)</sup>	CSP <sup>(6)</sup>	kg		
HP E90AN-D10-1-C10-07-C	10.00	1	20.0	18.0	80.00	7.70	10.00	C	2.5	-	1	0.04	SR 34-533	T-6/51
HP E90AN-D12-2-C12-07-C	12.00	2	18.0	16.2	80.00	7.70	12.00	C	2.7	3.5	1	0.06	SR 34-533/L/HG	T-6/51
HP E90AN-D14-2-C14-07-C	14.00	2	18.0	16.5	80.00	7.70	14.00	C	3.2	4.2	1	0.08	SR 34-533/L/HG	T-6/51
HP E90AN-D16-3-C15-07-C-B <sup>(1)</sup>	16.00	3	26.0	24.5	150.00	7.70	15.00	C	3.2	6.0	1	0.17	SR 34-533/L/HG	T-6/51
HP E90AN-D16-3-C16-07-C	16.00	3	26.0	24.5	90.00	7.70	16.00	C	3.2	6.0	1	0.11	SR 34-533/L/HG	T-6/51
HP E90AN-D16-3-W16-07	16.00	3	21.0	18.5	85.00	7.70	16.00	W	3.2	6.0	0	0.12	SR 34-533/L/HG	T-6/51
HP E90AN-D16-4-C16-07-C	16.00	4	26.0	24.5	90.00	7.70	16.00	C	3.2	6.0	1	0.11	SR 34-533/L/HG	T-6/51
HP E90AN-D16-4-W16-07	16.00	4	20.0	18.5	85.00	7.70	16.00	W	3.2	6.0	0	0.12	SR 34-533/L/HG	T-6/51
HP E90AN-D20-4-C19-07-C-B <sup>(1)</sup>	20.00	4	22.0	20.5	160.00	7.70	19.00	C	2.4	4.5	1	0.31	SR 34-533/L/HG	T-6/51
HP E90AN-D20-4-C20-07-C	20.00	4	22.0	20.5	110.00	7.70	20.00	C	2.4	4.5	1	0.23	SR 34-533/L/HG	T-6/51
HP E90AN-D20-5-C20-07-C	20.00	5	22.0	20.5	110.00	7.70	20.00	C	2.4	4.5	1	0.23	SR 34-533/L/HG	T-6/51
HP E90AN-D20-5-W20-07	20.00	5	22.0	20.5	90.00	7.70	20.00	W	2.4	4.5	0	0.20	SR 34-533/L/HG	T-6/51
HP E90AN-D25-5-C20-07-C	25.00	5	24.0	-	120.00	7.70	20.00	C	2.0	3.0	1	0.28	SR 34-533/L/HG	T-6/51
HP E90AN-D25-7-C20-07-C	25.00	7	24.0	-	120.00	7.70	20.00	C	2.0	3.0	1	0.27	SR 34-533/L/HG	T-6/51
HP E90AN-D32-8-C25-07-C	32.00	8	30.0	-	130.00	7.70	25.00	C	1.4	2.5	1	0.48	SR 34-533/L/HG	T-6/51

• Insert tightening torque: 62 Nxm • For user guide see pages 542-548

<sup>(1)</sup> "B" suffix - cylindrical shank which may be shortened.

<sup>(2)</sup> Number of inserts

<sup>(3)</sup> C-Cylindrical, W-Weldon

<sup>(4)</sup> Maximum ramping angle

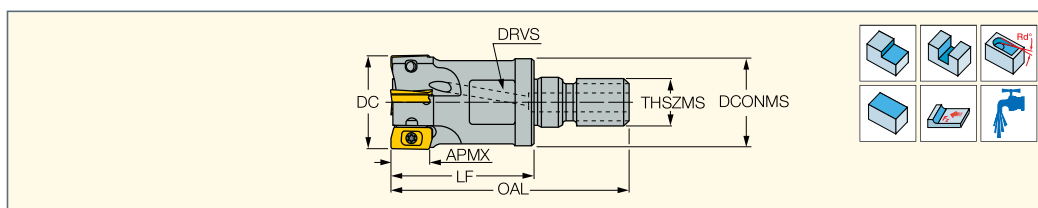
<sup>(5)</sup> Values only for HP ANKT 0702R12T-FF insert

<sup>(6)</sup> 0 - Without coolant supply, 1 - With coolant supply

**Inserts:** HP ANCR 0702PNFR • HP ANKT 0702...-FF • HP ANKT/ANCT 0702..PN-R/PNTR • HP ANKW 070204PNTR

**HELIPUS FLEXFIT**
**HP E90AN-M-07**

90° Endmills with a FLEXFIT  
 Threaded Adaptation  
 Carrying HELIPLUS HP  
 ANKT 0702.. Inserts



Designation	DC	CICT <sup>(1)</sup>	THSZMS	OAL	LF	APMX	DCONMS	RMPX <sup>(2)</sup>	RMPX <sup>(3)</sup>	DRVS <sup>(5)</sup>	TQ_3 <sup>(4)</sup>	kg		
HP E90AN-D25-5-M12	25.00	5	M12	57.00	35.00	7.70	21.00	2.0	3.0	19.0	33	0.09	SR 34-533/L/HG	T-6/51

• Insert tightening torque: 62 Nxm • For adaptation see page 44 • For user guide see pages 542-548 • When mounting items with FLEXFIT threaded adaptation to their holders, the mating surfaces and threaded areas must be thoroughly cleaned. Apply appropriate tightening torque to eliminate a gap between the mating faces. Estimated torque values are specified in the TQ\_3 parameter

<sup>(1)</sup> Number of inserts

<sup>(2)</sup> Maximum ramping angle

<sup>(3)</sup> Values only for HP ANKT 0702R12T-FF insert

<sup>(4)</sup> Torque key size

<sup>(5)</sup> Tool tightening torque Nxm (lbf·in)

**Inserts:** HP ANCR 0702PNFR • HP ANKT 0702...-FF • HP ANKT/ANCT 0702..PN-R/PNTR • HP ANKW 070204PNTR

**Holders:** BT-ODP (FLEXFIT) • C#-ODP (FLEXFIT) • CAB M-M (FLEXFIT) • DIN69871-ODP • ER-ODP

• HSK A-ODP (FLEXFIT) • S M • S M-C-H • S M-CF