



Thread milling without pre-drilled hole

# WH(O)-EM-PNC

Volume 3



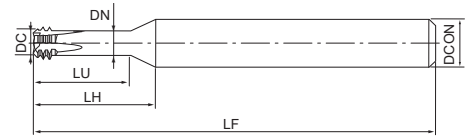
# FEATURES: WH(O)-EM-PNC

---



# WH-EM-PNC

Threading | Thread milling | Metric | Metric Fine



- Thread milling without pre-drilled hole
- WXS coating
- For hardened steels up to 62 HRC and stainless steels

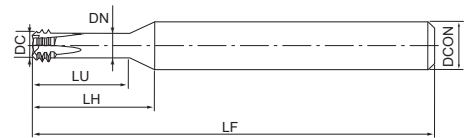
<b>P</b> ○	<b>P</b> ○	<b>P</b> ○	<b>P</b> ○	<b>M</b> ○	<b>K</b> ○	<b>K</b> ○	<b>N</b> ○	<b>N</b> ○	<b>S</b> ●	<b>S</b> ●	<b>H</b> ●	<b>H</b> ●	<b>H</b> ●	
C < 0,2%	0,25 < C < 0,4	C ≥ 0,45%	SCM	INOX	GG	GGG	Al	AC, ADC	Ti	Ni	25-45 HRC	45-55 HRC	~65 HRC	
40-100	40-100	40-100	40-100	40-100	40-120	40-100	40-100	40-160	40-80	40-80	40-100	30-80	30-50	m/min
0,01~0,03	0,01~0,03	0,01~0,03	0,01~0,03	0,01~0,03	0,01~0,1	0,01~0,05	0,01~0,05	0,01~0,1	0,01~0,03	0,01~0,03	0,01~0,03	0,01~0,03	0,01~0,03	mm/t
<b>M</b>	<b>MF</b>	<b>MJ</b>	<b>CARBIDE</b>	<b>WXS</b>	<b>h6</b>	<b>LH</b>								

EDP	Minimum cutting bore diameter	TP	DC	LF	LU	LH	DN	DCON	NOF
48347003	M3	0,5	2,4	50	7,5	12,3	1,7	6	4
48347004	M4	0,7	3,1	50	9,9	14,2	2,18	6	4
48347005	M5	0,8	4	50	12	15,5	2,97	6	4
48347006	M6	1	4,6	50	14,5	17,5	3,36	6	4
48347008	M8	1,25	6,2	70	19,2	24,1	4,66	10	4
48347010	M10	1,5	7,5	70	23,7	27,7	5,78	10	4
48347012	M12	1,75	9	80	28,4	31,4	6,92	10	4

Threading | Thread milling  
Metric | Metric Fine

# WHO-EM-PNC NEW SIZE

Threading | Thread milling | Metric | Metric Fine



- Thread milling without pre-drilled hole
- WXS coating
- For hardened steels up to 62 HRC and stainless steels
- Centre through coolant

Threading | Thread milling

<b>P</b> ○ C < 0,2%	<b>P</b> ○ 0,25 < C < 0,4	<b>P</b> ○ C ≥ 0,45%	<b>P</b> ○ SCM	<b>M</b> ○ INOX	<b>K</b> ○ GG	<b>K</b> ○ GGG	<b>N</b> ○ Al	<b>N</b> ○ AC, ADC	<b>S</b> ● Ti	<b>S</b> ● Ni	<b>H</b> ● 25-45 HRC	<b>H</b> ● 45-55 HRC	<b>H</b> ● ~65 HRC	m/min
40-100 0,01~0,03	40-100 0,01~0,03	40-100 0,01~0,03	40-100 0,01~0,03	40-100 0,01~0,03	40-120 0,01~0,1	40-100 0,01~0,05	40-100 0,01~0,05	40-160 0,01~0,1	40-80 0,01~0,03	40-80 0,01~0,03	40-100 0,01~0,03	30-80 0,01~0,03	30-50 0,01~0,03	mm/t
<b>M</b>	<b>MF</b>	<b>MJ</b>	<b>CARBIDE</b>	<b>WXS</b>		<b>h6</b>	<b>LH</b>							

Metric | Metric Fine

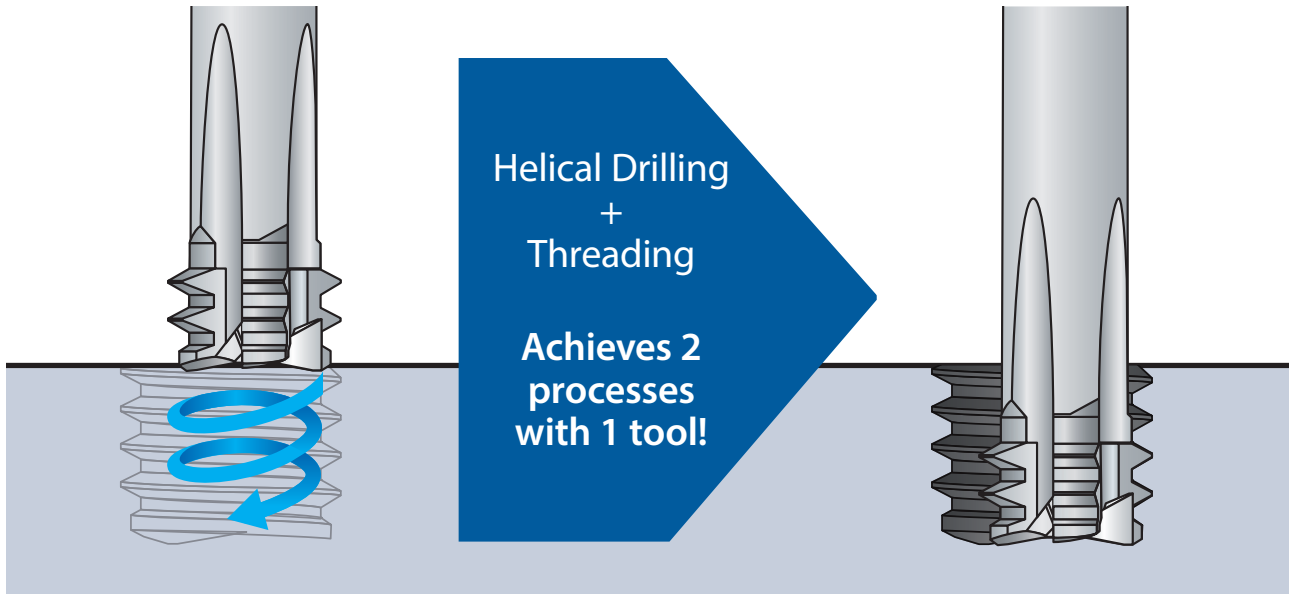
EDP	Minimum cutting bore diameter	TP	DC	LF	LU	LH	DN	DCON	NOF
48348003	M3	0,5	2,4	50	7,5	12,3	1,7	6	4
48348004	M4	0,7	3,1	50	9,9	14,2	2,18	6	4
48348005	M5	0,8	4	50	12	15,5	2,97	6	4
48348006	M6	1	4,6	50	14,5	17,5	3,36	6	4
48348008	M8	1,25	6,2	70	19,2	24,1	4,66	10	4
48348009	<b>NEW</b> M10	1	7,5	70	23,7	27,7	5,78	10	4
48348010	M10	1,5	7,5	70	23,7	27,7	5,78	10	4
48348012	M12	1,75	9	80	28,4	31,4	6,92	10	4
48348014	M14	2	9	90	33	37,9	6,62	12	4
48348016	M16	2	11,7	90	37	39,5	9,36	12	4



# WH(O)-EM-PNC: THREAD MILL WITH END-CUTTING EDGE FOR HIGH HARDNESS STEELS

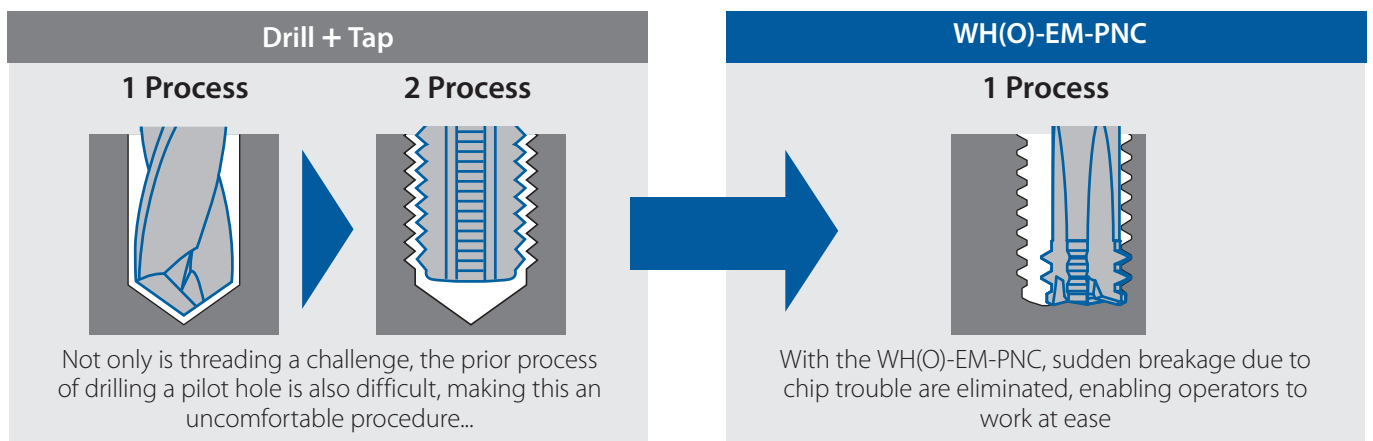
**No pilot hole is required!**  
**Stable machining without chip trouble**

Threading | Thread milling



WH(O)-EM-PNC: IDEAL FOR HIGHLY DIFFICULT HIGH HARDNESS STEEL APPLICATIONS!

**Helical drilling + threading can be done simultaneously, which reduces the risk of potential machining problems in the processing of high hardness steels**



The risk of sudden tool breakage can be minimized by breaking chips into small and manageable pieces and evacuating them smoothly. Since no pilot hole is required, process integration and the risk of breakage can be avoided.

# CUTTING DATA

Tool	WH-EM-PNC M4
Work Material	1.2379 (Cold work tool steel) 60HRC
Cutting speed	30 m/min (3.082 min <sup>-1</sup> )
Feed	123 mm/min (0.01 mm/t)
Depth of cut	8 mm
Coolant	Airblow
Machine	Exeron HSC600
Interface	HSK-40
Holder	Shrink holder
Hole type	Blind hole

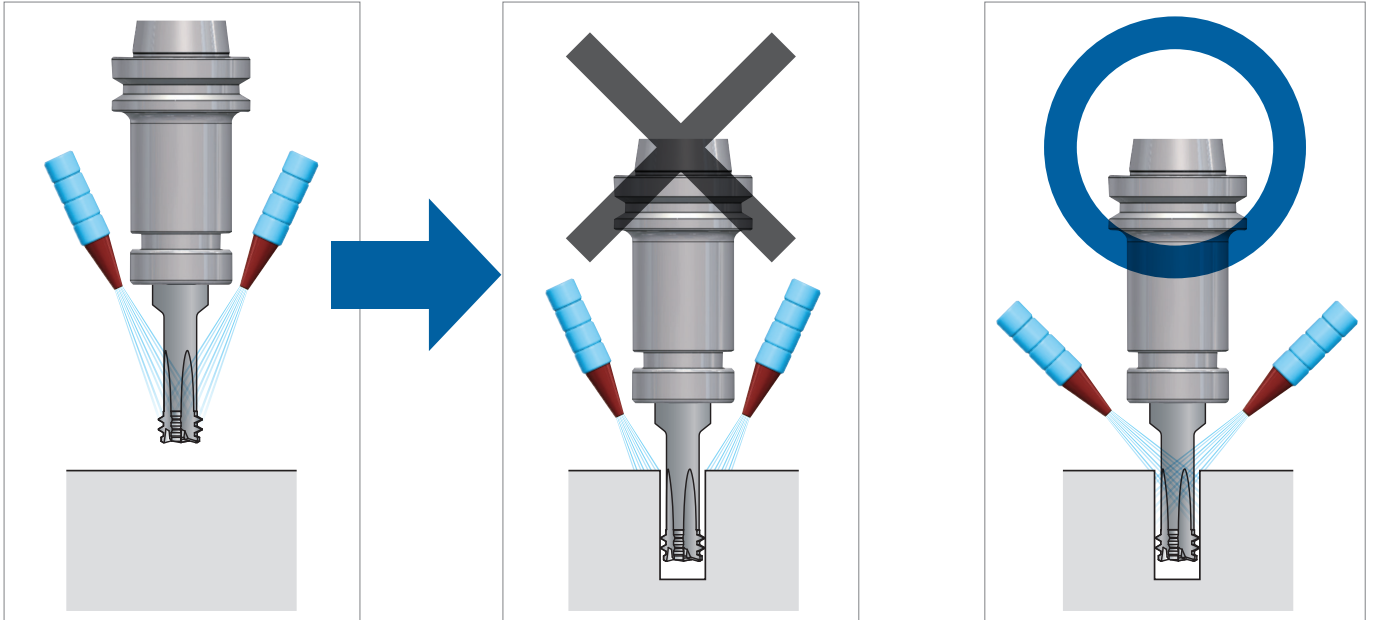
Tool	WH-EM-PNC M4
Work Material	1.6582 (Alloy engineering steel) 1400-1550 N/mm <sup>2</sup>
Cutting speed	50 m/min (5.137 min <sup>-1</sup> )
Feed	205 mm/min (0.01 mm/t)
Depth of cut	9 mm
Coolant	Airblow
Machine	Hermle C32U
Interface	HSK63-A
Holder	Hydraulic chuck
Hole type	Blind hole

Tool	WH-EM-PNC M4
Work Material	Vanadis (Cold work steel) 64HRC
Cutting speed	30 m/min (3.082 min <sup>-1</sup> )
Feed	123 mm/min (0.01 mm/t)
Depth of cut	8 mm
Coolant	Airblow
Machine	n.a.
Interface	n.a.
Holder	Shrink holder
Hole type	Blind hole



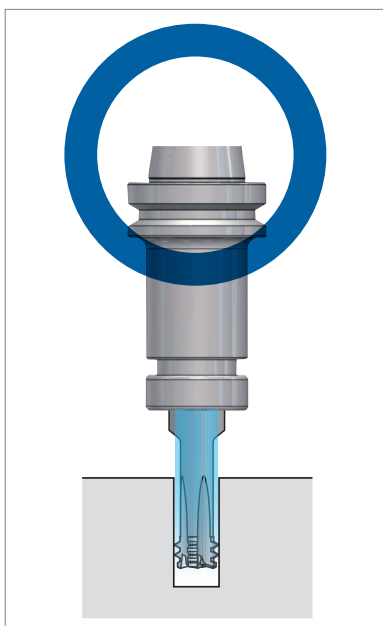
# PROPER USAGE OF COOLANT

**When using external coolant, ensure that the cutting fluid is properly positioned so that it is supplied into the hole.**



Threading | Thread milling

**If you are using a machining center with a through-spindle coolant system, the use of coolant through collet is recommended, or use WHO-EM-PNC**



Please refer to the following table to select a suitable coolant for cutting.

Work Material	WH(O)-EM-PNC	
	Air Blow	Water-Soluble
High-hardness steel	◎	△
General steel	×	◎

◎ : Best  
 △ : Shortening of tool life  
 × : Not recommended

Water-soluble cutting fluids can be used with satisfactory result, although in some cases the durability is inferior to air-blow.



# SUPPORT TOOLS FOR YOUR THREAD MILLING NEEDS

## Troubled by the following problems?

Unsure of diameter correction value. Increase passes which results in longer setup time.

Visibility of internal thread pitch diameter at entry enables the reduction of passes to minimize setup time significantly.

Moreover, the DCT is able to measure pitch diameter smaller than the tolerance limit. The DCT can measure the pitch diameter of the female internal thread even if it does not fit into the Go-Gauge.

An incorrect diameter correction that result in a defective internal thread (gauge-out).

Visibility of internal thread pitch diameter at entry enables reliable diameter corrections.

The DCT is useful for reducing defective workpieces.

Unstable tool life

Digitized measurement ensures consistent internal thread pitch diameters after tool changes. The same starting and finishing position ensures consistent and stable tool life.

## Solved with the Diameter Correction Tool DCT

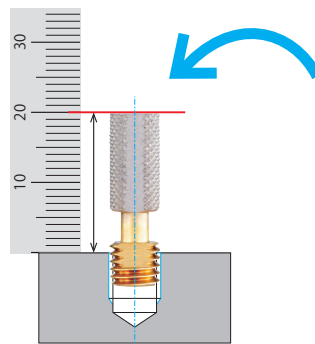
### DCT

Simple measurement of pitch diameter by visual judgment



### DCT75

**Low-cost type**  
Measurement and calculation system



**High-performance type**  
Digital display system

Eliminate measurement and calculation with the combination of a digital display.



## SWEDEN

Branch office of OSG SCANDINAVIA  
Singelgatan 7  
212 28 Malmö  
Sweden  
Tel: +46 40 41 22 55  
osg@osg-scandinavia.com

## OSG SCANDINAVIA

(For Scandinavian countries)  
Langebjergvaenget 16  
4000 Roskilde  
Denmark  
Tel: +45 46 75 65 55  
osg@osg-scandinavia.com

## OSG NETHERLANDS

Bedrijfsweg 5  
3481 MG Harmelen  
The Netherlands  
Tel: +31 348 44 2764  
Fax: +31 348 44 2144  
info@osg-nl.com

## OSG UK

Kelsey Close, Attleborough Fields Ind Est,  
CV11 6RS, Nuneaton  
United Kingdom  
Tel: +44 1827 720 013  
sales@osg-uk.com

## OSG EUROPE LOGISTICS

Avenue Lavoisier 1  
B-1300 Z.I. Wavre - Nord  
Belgium  
Tel: +32 10 23 05 07  
Fax: +32 10 23 05 51  
info@osgeurope.com

## OSG BELUX

Avenue Lavoisier 1  
B-1300 Z.I. Wavre - Nord  
Belgium  
Tel: +32 10 23 05 11  
Fax: +32 10 23 05 31  
info@osg-belgium.com

## OSG IBÉRICA

Bekolarra 4  
E - 01010 Vitoria-Gasteiz  
Spain  
Tel: +34 945 242 400  
Fax: +34 945 228 883  
osg.iberica@osg-ib.com

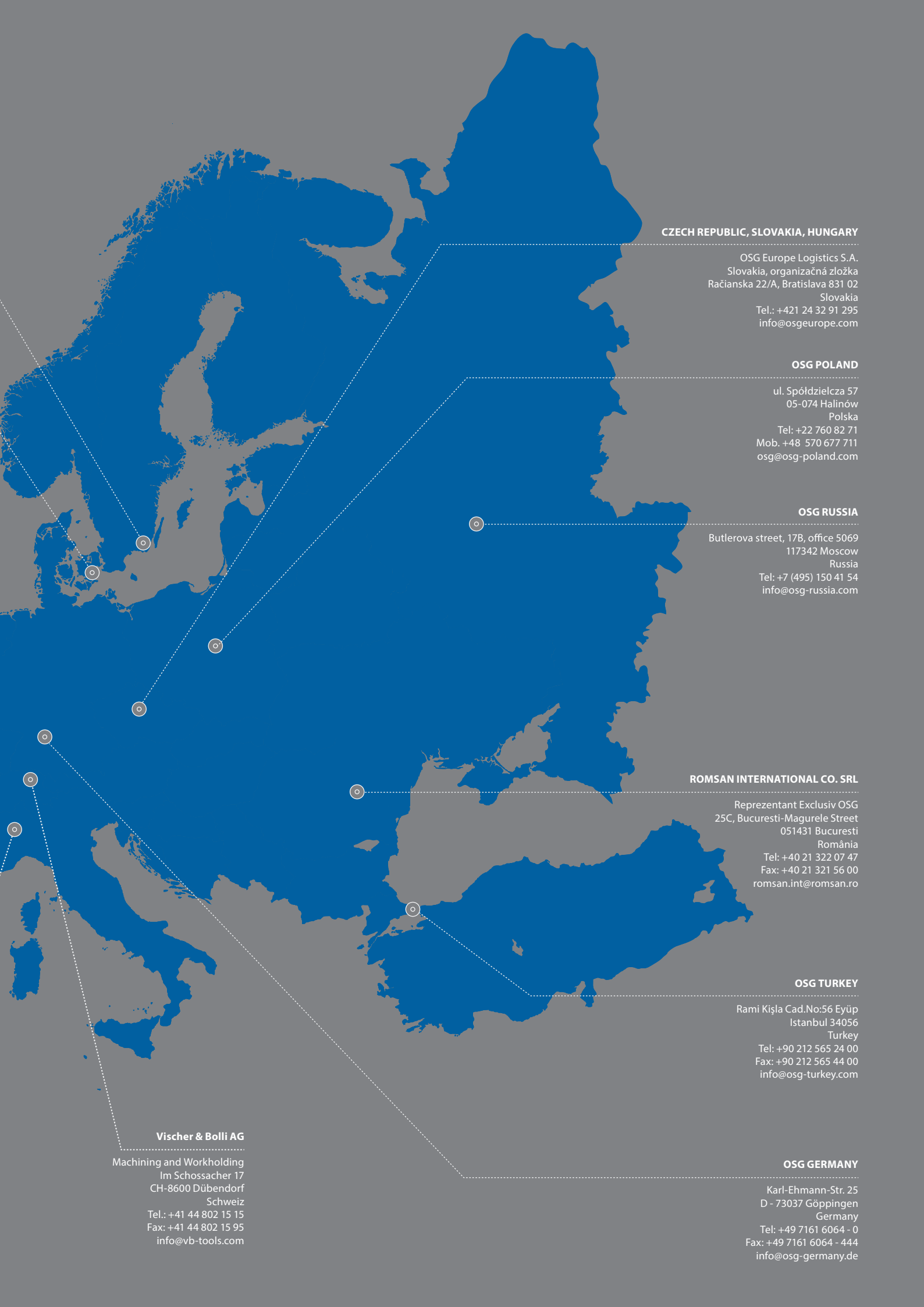
## OSG FRANCE

Parc Icade, Paris Nord 2  
Immeuble "Le Rimbaud"  
22 Avenue des Nations  
CS66191 - 93420 Villepinte  
France  
Tel: +33 1 49 90 10 10  
Fax: +33 1 49 90 10 15  
sales@osg-france.com

## OSG ITALY

Via Ferrero, 65 A/B  
I - 10098 Rivoli  
Italy  
Tel: +39 0117705211  
Fax: +39 0117705215  
info@osg-italia.it





**CZECH REPUBLIC, SLOVAKIA, HUNGARY**

OSG Europe Logistics S.A.  
Slovakia, organizačná zložka  
Račianska 22/A, Bratislava 831 02  
Slovakia  
Tel.: +421 24 32 91 295  
info@osgeurope.com

**OSG POLAND**

ul. Spółdzielcza 57  
05-074 Halinów  
Polska  
Tel: +22 760 82 71  
Mob. +48 570 677 711  
osg@osg-poland.com

**OSG RUSSIA**

Butlerova street, 17B, office 5069  
117342 Moscow  
Russia  
Tel: +7 (495) 150 41 54  
info@osg-russia.com

**ROMSAN INTERNATIONAL CO. SRL**

Reprezentant Exclusiv OSG  
25C, Bucuresti-Magurele Street  
051431 Bucuresti  
România  
Tel: +40 21 322 07 47  
Fax: +40 21 321 56 00  
romsan.int@romsan.ro

**OSG TURKEY**

Rami Kışla Cad.No:56 Eyüp  
Istanbul 34056  
Turkey  
Tel: +90 212 565 24 00  
Fax: +90 212 565 44 00  
info@osg-turkey.com

**Vischer & Bolli AG**

Machining and Workholding  
Im Schossacher 17  
CH-8600 Dübendorf  
Schweiz  
Tel.: +41 44 802 15 15  
Fax: +41 44 802 15 95  
info@vb-tools.com

**OSG GERMANY**

Karl-Ehmann-Str. 25  
D - 73037 Göppingen  
Germany  
Tel: +49 7161 6064 - 0  
Fax: +49 7161 6064 - 444  
info@osg-germany.de



shaping your dreams

#### **OSG EUROPE LOGISTICS**

Avenue Lavoisier 1  
B-1300 Z.I. Wavre - Nord - Belgium  
Tel: +32 10 23 05 07  
Fax: +32 10 23 05 51  
info@osgeurope.com

#### **OSG BELUX**

Avenue Lavoisier 1  
B-1300 Z.I. Wavre - Nord - Belgium  
Tel: +32 10 23 05 11  
Fax: +32 10 23 05 31  
info@osg-belgium.com

#### **OSG FRANCE**

Parc Icade, Paris Nord 2  
Immeuble "Le Rimbaud"  
22 Avenue des Nations  
CS66191 - 93420 Villepinte - France  
Tel: +33 1 49 90 10 10  
Fax: +33 1 49 90 10 15  
sales@osg-france.com

#### **OSG NETHERLANDS**

Bedrijfsweg 5 - 3481 MG Harmelen  
Tel: +31 348 44 2764  
Fax: +31 348 44 2144  
info@osg-nl.com

#### **OSG UK**

Kelsey Close, Attleborough Fields Ind Est,  
CV11 6RS, Nuneaton, United Kingdom.  
Tel: +44 1827 720 013  
uk\_sales@osg-uk.com

#### **CZECH, SLOVAKIA, HUNGARY**

OSG Europe Logistics S.A.  
Slovakia organizacna zlozka  
Racianská 22/A, SK-83102 Bratislava  
Slovakia  
Tel. +421 24 32 91 295  
Orders-osgsvk@osgeurope.com

#### **OSG POLAND Sp. z.o.o.**

Spółdzielcza 57  
05-074 Halinów - Poland  
Tel: +22 760 82 71  
Fax: +22 760 82 71  
osg@osg-poland.com

#### **OSG GERMANY**

Karl-Ehmann-Str. 25  
D - 73037 Göppingen - Germany  
Tel: +49 7161 6064 - 0  
Fax: +49 7161 6064 - 444  
info@osg-germany.de

#### **OSG SCANDINAVIA**

(For Scandinavian countries)  
Langebjergvaenget 16  
4000 Roskilde - Denmark  
Tel: +45 46 75 65 55  
Fax: +45 46 75 67 00  
osg@osg-scandinavia.com

#### **SWEDEN**

Branch office of OSG SCANDINAVIA  
Singelgatan 7  
212 28 Malmö - Sweden  
Tel: +46 40 41 22 55  
osg@osg-scandinavia.com

#### **OSG IBERICA**

Bekolarra 4  
E - 01010 Vitoria-Gasteiz - Spain  
Tel: +34 945 242 400  
Fax: +34 945 228 883  
osg.iberica@osg-ib.com

#### **RUSSIA**

Butlerova street, 17B, office 5069  
117342 Moscow - Russia  
Tel: +7 (495) 150 41 54  
info@osg-russia.com

#### **OSG TURKEY**

Rami Kişla Cad.No:56 Eyüp  
Istanbul 34056 - Turkey  
Tel:+90 212 565 24 00  
Fax: +90 212 565 44 00  
info@osg-turkey.com

#### **ROMSAN INTERNATIONAL CO. SRL**

Reprezentant Exclusiv OSG  
25C, Bucuresti-Magurele Street  
051431 Bucuresti - România  
Tel: +40 21 322 07 47  
Fax: +40 21 321 56 00  
romsan.int@romsan.ro

#### **AUSTRIA**

Branch office of OSG GERMANY  
Messestraße 11  
A-6850 Dornbirn  
Tel: +49 7161 6064-0  
Fax: +49 7161 6064-444  
info@osg-germany.de

#### **OSG ITALIA**

Via Ferrero, 65 A/B3  
I - 10098 Rivoli - Italy  
Tel: +39 0117705211  
Fax: +39 0117705215  
info@osg-italia.it

#### **Vischer & Bolli AG**

Machining and Workholding  
Im Schossacher 17  
CH-8600 Dübendorf  
T +41 44 802 15 15  
F +41 44 802 15 95  
info@vb-tools.com

**OSG EUROPE LOGISTICS S.A.**

03/2023 - All rights reserved. © OSG Europe 2023.

The contents of this catalogue are provided to you for viewing only. They are not intended for reproduction either in part or in whole in this or other medium. They cannot be copied, used to create derivation work or used for any reason, by means without the express, written permission of the copyright owner. If prices are stated, they are netto unit-prices and any eventual tax(es) have to be added. The company is not responsible for any printing error in technical, price and/or any other data.

Tool specifications subject to change without notice.

[www.osgeurope.com](http://www.osgeurope.com)