

**For left hand Metric thread**

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Type	Stock
M14 X 2	GYJ014QDNEBC	II	38	13	5	D-1	△
M14 X 1.5	GYJ0140DNEBC	II	38	13	5	D-1	△
M14 X 1.25	GYJ014NDNEBC	II	38	13	5	D-1	△
M14 X 1	GYJ014MDNEBC	II	38	13	5	D-1	△
M15 X 1.5	GYJ0150DNEBC	II	38	13	5	D-1	△
M15 X 1	GYJ015MDNEBC	II	38	13	5	D-1	△
M16 X 2	GYJ016QDNEBC	II	38	13	5	D-1	○
M16 X 2	GYM016QDNEBC	II	50	16	4	D-1	○
M16 X 1.5	GYJ0160DNEBC	II	38	13	5	D-1	△
M16 X 1.5	GYM0160DNEBC	II	50	16	4	D-1	△
M16 X 1	GYJ016MDNEBC	II	38	13	5	D-1	△
M16 X 1	GYM016MDNEBC	II	50	16	4	D-1	△
M17 X 1	GYM017MDNEBC	II	50	16	4	D-1	△
M18 X 2.5	GYM018RDNEBC	II	50	16	5	D-1	△
M18 X 2	GYM018QDNEBC	II	50	16	5	D-1	△
M18 X 1.5	GYM0180DNEBC	II	50	16	5	D-1	△
M18 X 1	GYM018MDNEBC	II	50	16	5	D-1	△
M20 X 2.5	GYM020RDNEBC	II	50	16	5	D-1	○
M20 X 2	GYM020QDNEBC	II	50	16	5	D-1	△
M20 X 1.5	GYM0200DNEBC	II	50	16	5	D-1	△
M20 X 1	GYM020MDNEBC	II	50	16	5	D-1	△
M22 X 2.5	GYM022RDNEBC	II	50	16	6	D-1	△
M22 X 2	GYM022QDNEBC	II	50	16	6	D-1	△
M22 X 1.5	GYM0220DNEBC	II	50	16	6	D-1	△
M22 X 1	GYM022MDNEBC	II	50	16	6	D-1	△
M24 X 3	GYM024SDNEBC	II	50	16	6	D-1	△
M24 X 2	GYM024QDNEBC	II	50	16	6	D-1	△
M24 X 1.5	GYM0240DNEBC	II	50	16	6	D-1	△
M24 X 1	GYM024MDNEBC	II	50	16	6	D-1	△
M25 X 1.5	GYM0250DNEBC	II	50	16	6	D-1	△
M26 X 1.5	GYR0260DNEBC	II	63	20	6	D-2	△
M27 X 3	GYR027SDNEBC	II	63	20	6	D-2	△
M27 X 1.5	GYR0270DNEBC	II	63	20	6	D-2	△
M28 X 1.5	GYR0280DNEBC	II	63	20	6	D-2	△
M30 X 3.5	GYR030TDNEBC	II	63	20	6	D-2	△
M30 X 3	GYR030SDNEBC	II	63	20	6	D-2	△
M30 X 2	GYR030QDNEBC	II	63	20	6	D-2	△
M30 X 1.5	GYR0300DNEBC	II	63	20	6	D-2	△
M36 X 4	GYU036UDNEBC	II	75	25	6	D-2	△
M48 X 5	GYU048WDNEBC	II	75	25	6	D-2	△

**For left hand Unified thread**

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Type	Stock
1/ 4 - 20UNC	GYGU04NDNEBC	II	25	9	4	D-1	△
1/ 4 - 28UNF	GYGU04KDNEBC	II	25	9	4	D-1	△
5/16 - 18UNC	GYGU050DNEBC	II	25	9	4	D-1	△
5/16 - 24UNF	GYGU05MDNEBC	II	25	9	4	D-1	△
3/ 8 - 16UNC	GYGU06PDNEBC	II	25	9	5	D-1	△
3/ 8 - 24UNF	GYGU06MDNEBC	II	25	9	5	D-1	△
7/16 - 20UNF	GYJU07NDNEBC	II	38	13	4	D-1	△
1/ 2 - 13UNC	GYJU08RDNEBC	II	38	13	4	D-1	△
1/ 2 - 20UNF	GYJU08NDNEBC	II	38	13	4	D-1	△
9/16 - 12UNC	GYJU09SDNEBC	II	38	13	5	D-1	△
9/16 - 18UNF	GYJU090DNEBC	II	38	13	5	D-1	△
5/ 8 - 11UNC	GYMU10UDNEBC	II	50	16	4	D-1	△
5/ 8 - 18UNF	GYMU100DNEBC	II	50	16	4	D-1	△
3/ 4 - 10UNC	GYMU12VDNEBC	II	50	16	5	D-1	△
3/ 4 - 16UNF	GYMU12PDNEBC	II	50	16	5	D-1	△
7/ 8 - 9UNC	GYMU14WDNEBC	II	50	16	6	D-1	△
7/ 8 - 14UNF	GYMU14QDNEBC	II	50	16	6	D-1	△

**For left hand Whitworth thread**

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Type	Stock
3/16 W 24	GYEW03MDNEBC	II	20	7	4	D-1	△
5/16 W 18	GYGW050DNEBC	II	25	9	4	D-1	△
3/ 8 W 16	GYGW06PDNEBC	II	25	9	5	D-1	△
3/ 8 W 16	GYJW06PDNEBC	II	38	13	4	D-1	△
7/16 W 14	GYJW07QDNEBC	II	38	13	4	D-1	△
1/ 2 W 12	GYJW08SDNEBC	II	38	13	4	D-1	△
5/ 8 W 11	GYJW10UDNEBC	II	38	13	4	D-1	△
3/ 4 W 10	GYMW12VDNEBC	II	50	16	5	D-1	△
7/ 8 W 9	GYMW14WDNEBC	II	50	16	6	D-1	△
1" W 8	GYMW16XDNEBC	II	50	16	6	D-1	△

Stock ○=Standard ○=Semi standard △=Made to order

**Warning**

- ◆ Tools may shatter. Wear cover or eye glass to avoid injury during tapping.
- ◆ Tools may be shatter. Use tools under the proper tapping condition.
- ◆ Never wear gloves during turning operations as the gloves may get caught with the tools.
- ◆ Wear safety shoes to avoid injuring yourself by the falling tools.
- ◆ On attaching tools to the machine, fasten firmly to avoid chattering and run-out.
- ◆ Fasten the workpieces firmly so that they never move during operation. Never use worn tools or damaged tools with chipping.
- ◆ Take a special care to fire trouble. High temperature during machining may cause fire.

Please note that specification may change without advance notice.

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YAMAWA group for Overseas

YAMAWA International Co., Ltd.



Think threads with **YAMAWA**

# Solid Round Dies "D"

High precision thread cutting of external threads becomes possible with ease!!

■ Solid Round Dies D ■

## Solid Round Dies D



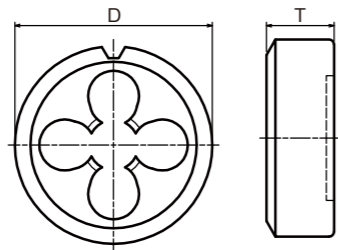
## Dimension

### Solid Round Dies - D

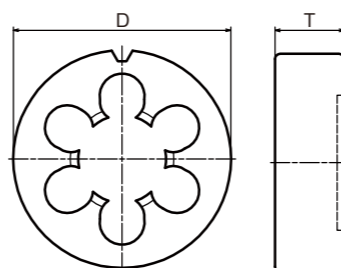
HSS 2~2.5



TYPE:D-1  
~φ50



TYPE:D-2  
φ63~



## Product features

New Solid Round Dies (D) are born, with improved accuracy of run-out tolerance. The Solid Dies D, realize consistent thread cutting by adopting HSS material.

① The side with markings on its bevel, is the front face. This makes it easy to determine the cutting direction. Solid Round Dies- D front face has markings on its bevel portion.

◎Solid Round Dies-D Front face

Markings on its bevel portion

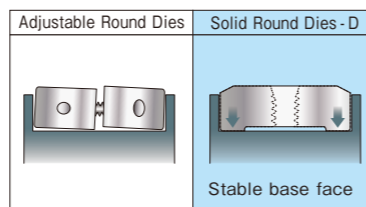


② The rear face becomes the base for cutting. The rear face has a recess so that it fits tightly in the die holder while installing.

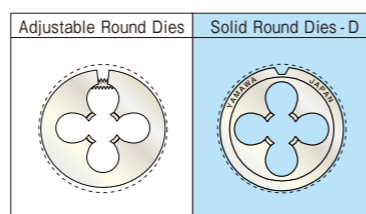
◎Solid Round Dies-D Rear face (base for cutting)



Recess



③ D, is a solid type die and does not need the adjusting screw. Compared with adjustable type, Type D's outside diameter improves its accuracy.

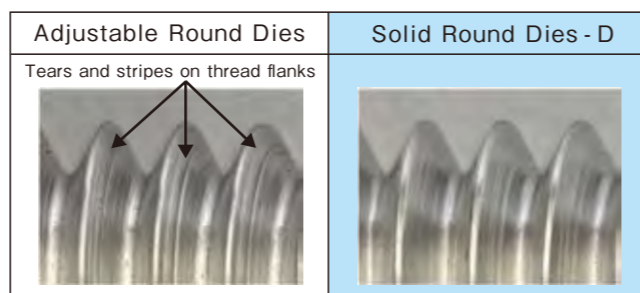


## Cutting data

D has succeeded in solving the difficult problems related to Adjustable Round Dies and achieves the high precision cutting of external threads.

◎Cutting condition

Die size	M6×1 φ20
Material	Free cutting steel
Cutting speed	2.6m/min
Feed	Free
Machine	Engine lathe
Cutting fluid	Insoluble oil



※External threads cut by Solid Round Dies (D) have less tears and stripes on thread flank face.

## Related products

Tooling designed for Solid Round Dies [RD-DA Die Attachment]

- Tooling designed for Solid Round Dies, having the mechanism to compensate for feed error and absorb misalignment.
- D makes it possible to simply cut external threads on complex workpieces with machining centers.

(Unit)

Code	Applicable die OD(mm)	Overall length	Shank
DA10-20	10	71	20
DA16-20	16	76	20
DA20-25	20	89	25
DA25-25	25	89	25
DA38-32	38	122	32



Combined with CNC Tooling, this attachment enables the external thread cuttings.

## For Metric thread

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Type	Stock
M1 X 0.25	TYD1.0BDNEBC	II	16	5	3	D-1	○
M1 X 0.25	TYE1.0BDNEBC	II	20	7	3	D-1	○
M1 X 0.2	TYE1.0ADNEBC	II	20	7	3	D-1	△
M1.2X 0.25	TYD1.2BDNEBC	II	16	5	3	D-1	○
M1.2X 0.25	TYE1.2BDNEBC	II	20	7	3	D-1	○
M1.2X 0.2	TYE1.2ADNEBC	II	20	7	3	D-1	△
M1.4X 0.3	TYD1.4CDNEBC	II	16	5	3	D-1	○
M1.4X 0.3	TYE1.4CDNEBC	II	20	7	3	D-1	○
M1.4X 0.2	TYE1.4ADNEBC	II	20	7	3	D-1	△
M1.6X 0.35	TYD1.6DDNEBC	II	16	5	3	D-1	○
M1.6X 0.35	TYE1.6DDNEBC	II	20	7	3	D-1	○
M1.6X 0.2	TYE1.6ADNEBC	II	20	7	3	D-1	△
M1.7X 0.35	TYD1.7DDNEBC	II	16	5	3	D-1	○
M1.7X 0.35	TYE1.7DDNEBC	II	20	7	3	D-1	○
M1.7X 0.2	TYE1.7ADNEBC	II	20	7	3	D-1	△
M1.8X 0.35	TYD1.8DDNEBC	II	16	5	3	D-1	△
M1.8X 0.35	TYE1.8DDNEBC	II	20	7	3	D-1	△
M1.8X 0.2	TYE1.8ADNEBC	II	20	7	3	D-1	△
M2 X 0.4	TYE2.0EDNEBC	II	20	7	3	D-1	◎
M2 X 0.4	TYD2.0EDNEBC	II	16	5	3	D-1	○
M2 X 0.4	TYG2.0EDNEBC	II	25	9	3	D-1	△
M2 X 0.25	TYD2.0BDNEBC	II	16	5	3	D-1	△
M2 X 0.25	TYE2.0BDNEBC	II	20	7	3	D-1	△
M2.2X 0.45	TYD2.2FDNEBC	II	16	5	3	D-1	△
M2.2X 0.45	TYE2.2FDNEBC	II	20	7	3	D-1	△
M2.2X 0.25	TYD2.2BDNEBC	II	16	5	3	D-1	△
M2.3X 0.4	TYE2.3EDNEBC	II	20	7	3	D-1	○
M2.3X 0.4	TYD2.3EDNEBC	II	16	5	3	D-1	△
M2.3X 0.25	TYE2.3BDNEBC	II	20	7	3	D-1	△
M2.5X 0.45	TYE2.5FDNEBC	II	20	7	3	D-1	◎
M2.5X 0.45	TYG2.5FDNEBC	II	25	9	3	D-1	△
M2.5X 0.35	TYE2.5DDNEBC	II	20	7	3	D-1	△
M2.6X 0.45	TYE2.6FDNEBC	II	20	7	3	D-1	◎
M2.6X 0.45	TYG2.6FDNEBC	II	25	9	3	D-1	△
M2.6X 0.35	TYE2.6DDNEBC	II	20	7	3	D-1	△
3 M 0.6	TYE3.0HDNEBC	II	20	7	3	D-1	△
3 M 0.6	TYG3.0HDNEBC	II	25	9	3	D-1	△
M3 X 0.5	TYE3.0GDNEBC	II	20	7	3	D-1	◎
M3 X 0.5	TYG3.0GDNEBC	II	25	9	3	D-1	○
M3 X 0.5	TYD3.0GDNEBC	II	16	5	3	D-1	△
M3 X 0.35	TYE3.0DDNEBC	II	20	7	3	D-1	○

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Type	Stock
M3 X 0.35	TYG3.0DDNEBC	II	25	9	3	D-1	△
M3.5X 0.6	TYE3.5HDNEBC	II	20	7	3	D-1	○
M3.5X 0.6	TYG3.5HDNEBC	II	25	9	3	D-1	△
M3.5X 0.5	TYE3.5GDNEBC	II	20	7	3	D-1	△
M3.5X 0.35	TYE3.5DDNEBC	II	20	7	3	D-1	○
4 M 0.75	TYE4.0JDNEBC	II	20	7	3	D-1	○
4 M 0.75	TYG4.0JDNEBC	II	25	9	3	D-1	△
M4 X 0.7	TYE4.0IDNEBC	II	20	7	3	D-1	◎
M4 X 0.7	TYG4.0IDNEBC	II	25	9	3	D-1	◎
M4 X 0.7	TYJ4.0IDNEBC	II	38	13	4	D-1	△
M4 X 0.5	TYE4.0GDNEBC	II	20	7	3	D-1	○
M4 X 0.5	TYG4.0GDNEBC	II	25	9	3	D-1	△
M4 X 0.35	TYE4.0DDNEBC	II	20	7	3	D-1	△
M4.5X 0.75	TYE4.5JDNEBC	II	20	7	4	D-1	△
M4.5X 0.5	TYE4.5GDNEBC	II	20	7	4	D-1	△
5 M 0.9	TYE5.0LDNEBC	II	20	7	4	D-1	△
5 M 0.9	TYG5.0LDNEBC	II	25	9	3	D-1	△
M5 X 0.8	TYE5.0KDNEBC	II	20	7	4	D-1	◎
M5 X 0.8	TYG5.0KDNEBC	II	25	9	3	D-1	◎
M5 X 0.8	TYJ5.0KDNEBC	II	38	13	4	D-1	△
M5 X 0.75	TYE5.0JDNEBC	II	20	7	4	D-1	△
M5 X 0.5	TYE5.0GDNEBC	II	20	7	4	D-1	○
M5 X 0.5	TYG5.0GDNEBC	II	25	9	3	D-1	○
M5.5X 0.9	TYE5.5LDNEBC	II	20	7	4	D-1	△
M5.5X 0.5	TYE5.5GDNEBC	II	20	7	4	D-1	△
M6 X 1	TYE6.0MDNEBC	II	20	7	4	D-1	◎
M6 X 1	TYG6.0MDNEBC	II	25	9	4	D-1	◎
M6 X 1	TYJ6.0MDNEBC	II	38	13	4	D-1	○
M6 X 0.75	TYE6.0JDNEBC	II	20	7	4	D-1	○
M6 X 0.75	TYG6.0JDNEBC	II	25	9	4	D-1	○
M6 X 0.75	TYJ6.0JDNEBC	II	38	13	4	D-1	△
M6 X 0.5	TYE6.0GDNEBC	II	20	7	4	D-1	○
M6 X 0.5	TYG6.0GDNEBC	II	25	9	4	D-1	○
M7 X 1	TYG7.0MDNEBC	II	25	9	4	D-1	○
M7 X 0.75	TYG7.0JDNEBC	II	25	9	4	D-1	○
M7 X 0.5	TYG7.0GDNEBC	II	25	9	4	D-1	○
M8 X 1.25	TYG8.0NDNEBC	II	25	9	4	D-1	◎
M8 X 1.25	TYJ8.0NDNEBC	II	38	13	4	D-1	◎
M8 X 1.25	TYM8.0NDNEBC	II	50	16	6	D-1	○
M8 X 1	TYG8.0MDNEBC	II	25	9	4	D-1	○
M8 X 1	TYJ8.0MDNEBC	II	38	13	4	D-1	○

Stock ◎=Standard ○=Semi standard △=Made to order



## For Unified thread

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Type	Stock
No. 0 - 80UNF	TYDUN0BDNEBC	II	16	5	3	D-1	△
No. 0 - 80UNC	TYEUN0BDNEBC	II	20	7	3	D-1	△
No. 1 - 64UNC	TYEUN1DDNEBC	II	20	7	3	D-1	△
No. 1 - 72UNF	TYEUN1CDNEBC	II	20	7	3	D-1	△
No. 2 - 56UNC	TYDUN2EDNEBC	II	16	5	3	D-1	△
No. 2 - 56UNC	TYEUN2EDNEBC	II	20	7	3	D-1	△
No. 2 - 64UNF	TYEUN2DDNEBC	II	20	7	3	D-1	△
No. 3 - 48UNC	TYEUN3FDNEBC	II	20	7	3	D-1	△
No. 3 - 56UNF	TYEUN3EDNEBC	II	20	7	3	D-1	△
No. 4 - 40UNC	TYEUN4HDNEBC	II	20	7	3	D-1	○
No. 4 - 48UNF	TYEUN4FDNEBC	II	20	7	3	D-1	△
No. 5 - 40UNC	TYEUN5HDNEBC	II	20	7	3	D-1	△
No. 5 - 44UNF	TYEUN5GDNEBC	II	20	7	3	D-1	△
No. 6 - 32UNC	TYEUN6JDNEBC	II	20	7	3	D-1	○
No. 6 - 40UNF	TYEUN6HDNEBC	II	20	7	3	D-1	△
No. 8 - 32UNC	TYEUN8JDNEBC	II	20	7	3	D-1	○
No. 8 - 36UNF	TYEUN8IDNEBC	II	20	7	3	D-1	△
No.10 - 24UNC	TYEUNAMDNEBC	II	20	7	4	D-1	△
No.10 - 32UNF	TYEUNAJDNEBC	II	20	7	4	D-1	○
No.12 - 24UNC	TYEUNCMDNEBC	II	20	7	4	D-1	△
No.12 - 28UNF	TYEUNCKDNEBC	II	20	7	4	D-1	△
1/ 4 - 20UNC	TYEU04NDNEBC	II	20	7	4	D-1	○
1/ 4 - 20UNC	TYGU04NDNEBC	II	25	9	4	D-1	△
1/ 4 - 28UNF	TYEU04KDNEBC	II	20	7	4	D-1	○
1/ 4 - 28UNF	TYGU04KDNEBC	II	25	9	4	D-1	○
1/ 4 - 32UNEF	TYGU04JDNEBC	II	25	9	4	D-1	△
5/16 - 18UNC	TYGU05ODNEBC	II	25	9	4	D-1	△
5/16 - 18UNC	TYJU05ODNEBC	II	38	13	4	D-1	△
5/16 - 24UNF	TYGU05MDNEBC	II	25	9	4	D-1	○
5/16 - 24UNF	TYJU05MDNEBC	II	38	13	4	D-1	△
5/16 - 32UNEF	TYGU05JDNEBC	II	25	9	4	D-1	△
3/ 8 - 16UNC	TYGU06PDNEBC	II	25	9	5	D-1	○
3/ 8 - 16UNC	TYJU06PDNEBC	II	38	13	4	D-1	△
3/ 8 - 24UNF	TYGU06MDNEBC	II	25	9	5	D-1	○
3/ 8 - 24UNF	TYJU06MDNEBC	II	38	13	4	D-1	○
3/ 8 - 32UNEF	TYGU06JDNEBC	II	25	9	5	D-1	△
7/16 - 14UNC	TYJU07QDNEBC	II	38	13	4	D-1	△
7/16 - 20UNF	TYJU07NDNEBC	II	38	13	4	D-1	○
7/16 - 24UNS	TYJU07MDNEBC	II	38	13	4	D-1	△

Stock ○=Standard ○=Semi standard △=Made to order

## For Whitworth thread

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Type	Stock
1/16 W 60	TYEW019DNEBC	II	20	7	3	D-1	△
3/32 W 48	TYEW1HFDNEBC	II	20	7	3	D-1	△
1/ 8 W 40	TYEW02HDNEBC	II	20	7	3	D-1	○
5/32 W 32	TYEW2HJDNEBC	II	20	7	4	D-1	○
3/16 W 24	TYEW03MDNEBC	II	20	7	4	D-1	○
3/16 W 24	TYGW03MDNEBC	II	25	9	3	D-1	△
7/32 W 24	TYEW3HMDNEBC	II	20	7	4	D-1	△
1/ 4 W 20	TYEW04NDNEBC	II	20	7	4	D-1	○
1/ 4 W 20	TYGW04NDNEBC	II	25	9	4	D-1	△
1/ 4 W 20	TYJW04NDNEBC	II	38	13	4	D-1	△
5/16 W 18	TYGW05ODNEBC	II	25	9	4	D-1	○
5/16 W 18	TYJW05ODNEBC	II	38	13	4	D-1	△
3/ 8 W 16	TYGW06PDNEBC	II	25	9	5	D-1	○
3/ 8 W 16	TYJW06PDNEBC	II	38	13	4	D-1	○
3/ 8 W 16	TYMW06PDNEBC	II	50	16	4	D-1	△
7/16 W 14	TYJW07QDNEBC	II	38	13	4	D-1	△
7/16 W 14	TYMW07QDNEBC	II	50	16	4	D-1	△
1/ 2 W 12	TYJW08SDNEBC	II	38	13	4	D-1	○
1/ 2 W 12	TYMW08SDNEBC	II	50	16	4	D-1	△
9/16 W 12	TYJW09SDNEBC	II	38	13	5	D-1	△
5/ 8 W 11	TYJW10UDNEBC	II	38	13	5	D-1	○
5/ 8 W 11	TYMW10UDNEBC	II	50	16	4	D-1	○
3/ 4 W 10	TYMW12VDNEBC	II	50	16	5	D-1	○
7/ 8 W 9	TYMW14WDNEBC	II	50	16	6	D-1	○
1' W 8	TYMW16XDNEBC	II	50	16	6	D-1	○
1'1/8 W 7	TYRW18YDNEBC	II	63	20	6	D-2	△
1'1/4 W 7	TYRW20YDNEBC	II	63	20	6	D-2	△
1'3/8 W 6	TYUW22ZDNEBC	II	75	25	6	D-2	△
1'1/2 W 6	TYUW24ZDNEBC	II	75	25	6	D-2	△

## For Screw Thread used on Sewing Machines

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Type	Stock
3/32 SM 56	TYES06EDNEBC	II	20	7	3	D-1	△
1/ 8 SM 40	TYES08HDNEBC	II	20	7	3	D-1	△
1/ 8 SM 44	TYES08GDNEBC	II	20	7	3	D-1	△
9/64 SM 40	TYES09HDNEBC	II	20	7	3	D-1	△
11/64 SM 40	TYES11HDNEBC	II	20	7	4	D-1	△
3/16 SM 28	TYES12KDNEBC	II	20	7	4	D-1	△
3/16 SM 32	TYES12JDNEBC	II	20	7	4	D-1	△
7/32 SM 32	TYES14JDNEBC	II	20	7	4	D-1	△
15/64 SM 28	TYES15KDNEBC	II	20	7	4	D-1	△
1/ 4 SM 24	TYES16MDNEBC	II	20	7	4	D-1	△
1/ 4 SM 40	TYES16HDNEBC	II	20	7	4	D-1	△

Stock ○=Standard ○=Semi standard △=Made to order

## For left hand Metric thread

Size	Code	Class	D (mm)	T (mm)	Clearance holes	Type	Stock
M 1 X 0.25	GYE1.0BDNEBC	II	20	7	3	D-1	△
M 1.4X 0.3	GYE1.4CDNEBC	II	20	7	3	D-1	△
M 1.6X 0.35	GYE1.6DDNEBC	II	20	7	3	D-1	△
M 1.7X 0.35	GYE1.7DDNEBC	II	20	7	3	D-1	△
M 2 X 0.4	GYE2.0EDNEBC	II	20	7	3	D-1	△
M 2.3X 0.4	GYE2.3EDNEBC	II	20	7	3	D-1	△
M 2.5X 0.45	GYE2.5FDNEBC	II	20	7	3	D-1	△
M 2.6X 0.45	GYE2.6FDNEBC	II	20	7	3	D-1	△
M 3 X 0.5	GYE3.0GDNEBC	II	20	7	3	D-1	○
M 3 X 0.5	GYG3.0GDNEBC	II	25	9	3	D-1	△
M 3 X 0.35	GYE3.0DDNEBC	II	20	7	3	D-1	△
M 3.5X 0.6	GYE3.5HDNEBC	II	20	7	3	D-1	△
M 3.5X 0.35	GYE3.5DDNEBC	II	20	7	3	D-1	△
M 4 X 0.7	GYE4.0IDNEBC	II	20	7	3	D-1	○
M 4 X 0.7	GYG4.0IDNEBC	II	25	9	3	D-1	○
M 4 X 0.5	GYE4.0GDNEBC	II	20	7	3	D-1	△
M 5 X 0.8	GYE5.0KDNEBC	II	20	7	4	D-1	○
M 5 X 0.8	GYG5.0KDNEBC	II	25	9	3	D-1	○
M 5 X 0.5	GYE5.0GDNEBC	II	20	7	4	D-1	△
M 6 X 1	GYE6.0MDNEBC	II	20	7	4	D-1	○
M 6 X 1	GYG6.0MDNEBC	II	25	9	4	D-1	○
M 6 X 1	GYJ6.0MDNEBC	II	38	13	4	D-1	△
M 6 X 0.75	GYE6.0JDNEBC	II	20	7	4	D-1	△
M 6 X 0.5	GYE6.0GDNEBC	II	20	7	4	D-1	△
M 7 X 1	GYG7.0MDNEBC	II	25	9	4	D-1	△
M 7 X 0.75	GYG7.0JDNEBC	II	25	9	4	D-1	△
M 7 X 0.5	GYG7.0GDNEBC	II	25	9	4	D-1	△
M 8 X 1.25	GYG8.0NDNEBC	II	25	9	4	D-1	○
M 8 X 1.25	GYJ8.0NDNEBC	II	38	13	4	D-1	○
M 8 X 1	GYG8.0MDNEBC	II	25	9	4	D-1	△
M 8 X 1	GYJ8.0MDNEBC	II	38	13	4	D-1	△
M 8 X 0.75	GYG8.0JDNEBC	II	25	9	4	D-1	△
M 8 X 0.5	GYG8.0GDNEBC	II	25	9	4	D-1	△
M 9 X 1.25	GYG9.0NDNEBC	II	25	9	5	D-1	△
M 9 X 1	GYG9.0MDNEBC	II	25	9	5	D-1	△
M 9 X 0.75	GYG9.0JDNEBC	II	25	9	5	D-1	△
M 9 X 0.5	GYG9.0GDNEBC	II	25	9	5	D-1	△
M10 X 1.5	GYG0100DNEBC	II	25	9	5	D-1	○
M10 X 1.5	GYJ0100DNEBC	II	38	13	4	D-1	○
M10 X 1.25	GYG010NDNEBC	II	25	9	5	D-1	△
M10 X 1.25	GYJ010NDNEBC	II	38	13	4	D-1	△
M10 X 1	GYG010MDNEBC	II	25	9	5	D-1	△
M10 X 1	GYJ010MDNEBC	II	38	13	4	D-1	△
M10 X 0.75	GYG010JDNEBC	II	25	9	5	D-1	△
M10 X 0.5	GYG010GDNEBC	II	25	9	5	D-1	△
M11 X 1.5	GYJ0110DNEBC	II	38	13	4	D-1	△
M11 X 1.25	GYJ011NDNEBC	II	38	13	4	D-1	△
M11 X 1	GYJ011MDNEBC	II	38	13	4	D-1	△
M11 X 0.5	GYJ011GDNEBC	II	38	13	4	D-1	△
M12 X 1.75	GYJ012PDNEBC	II	38	13	4	D-1	○
M12 X 1.5	GYJ0120DNEBC	II	38	13	4	D-1	△
M12 X 1.25	GYJ012NDNEBC	II	38	13	4	D-1	△
M12 X 1	GYJ012MDNEBC	II	38	13	4	D-1	△
M12 X 0.75	GYJ012JDNEBC	II	38	13	4	D-1	△
M12 X 0.5	GYJ012GDNEBC	II	38	13	4	D-1	△