



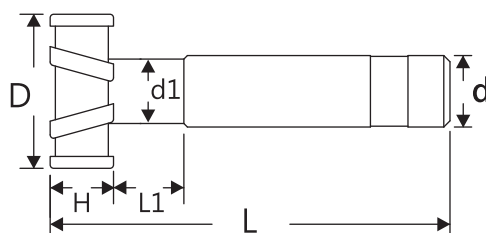
# TWTS 螺絲溝T型刀

Screw T-slots

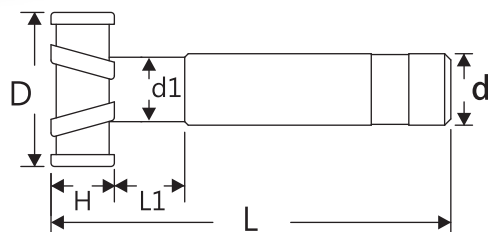
P M K



● 千鳥刀 Staggered tooth



| Ordering code  | Grade | D    | H    | d  | d1 | L1 | L   | Flutes |
|----------------|-------|------|------|----|----|----|-----|--------|
| TWTS-20.5-09.5 | P     | 20.5 | 9.5  | 12 | 10 | 15 | 95  | 4      |
| TWTS-20.5-09.5 | K     | 20.5 | 9.5  | 12 | 10 | 15 | 95  | 4      |
| TWTS-26.0-11.0 | P     | 26   | 11   | 20 | 13 | 18 | 100 | 6      |
| TWTS-26.0-11.0 | K     | 26   | 11   | 20 | 13 | 18 | 100 | 6      |
| TWTS-28.0-10.0 | P     | 28   | 10   | 20 | 13 | 15 | 110 | 6      |
| TWTS-28.0-12.0 | P     | 28   | 12   | 20 | 13 | 15 | 110 | 6      |
| TWTS-32.0-12.0 | P     | 32   | 12   | 25 | 16 | 26 | 110 | 6      |
| TWTS-32.0-12.0 | K     | 32   | 12   | 25 | 16 | 26 | 110 | 6      |
| TWTS-32.0-14.0 | P     | 32   | 14   | 25 | 16 | 26 | 110 | 6      |
| TWTS-32.0-14.0 | K     | 32   | 14   | 25 | 16 | 26 | 110 | 6      |
| TWTS-38.0-16.0 | P     | 38   | 16   | 32 | 19 | 25 | 126 | 6      |
| TWTS-38.0-16.0 | K     | 38   | 16   | 32 | 19 | 25 | 126 | 6      |
| TWTS-40.0-18.0 | P     | 40   | 18   | 32 | 19 | 26 | 129 | 6      |
| TWTS-40.0-18.0 | K     | 40   | 18   | 32 | 19 | 26 | 129 | 6      |
| TWTS-42.0-18.0 | P     | 42   | 18   | 32 | 19 | 26 | 129 | 6      |
| TWTS-42.0-18.0 | K     | 42   | 18   | 32 | 19 | 26 | 129 | 6      |
| TWTS-48.0-20.0 | P     | 48   | 20   | 32 | 21 | 28 | 135 | 8      |
| TWTS-48.0-20.0 | K     | 48   | 20   | 32 | 21 | 28 | 135 | 8      |
| TWTS-48.0-22.0 | P     | 48   | 22   | 32 | 21 | 28 | 135 | 8      |
| TWTS-48.0-22.0 | K     | 48   | 22   | 32 | 21 | 28 | 135 | 8      |
| TWTS-48.5-20.5 | P     | 48.5 | 20.5 | 32 | 21 | 28 | 135 | 8      |
| TWTS-49.0-21.0 | K     | 49   | 21   | 32 | 25 | 28 | 135 | 8      |
| TWTS-50.0-20.0 | P     | 50   | 20   | 32 | 25 | 28 | 135 | 8      |
| TWTS-50.0-20.0 | K     | 50   | 20   | 32 | 25 | 28 | 135 | 8      |
| TWTS-50.0-22.0 | P     | 50   | 22   | 32 | 25 | 28 | 135 | 8      |
| TWTS-50.0-22.0 | K     | 50   | 22   | 32 | 25 | 28 | 135 | 8      |
| TWTS-52.0-22.0 | P     | 52   | 22   | 32 | 25 | 28 | 135 | 8      |
| TWTS-52.0-22.0 | K     | 52   | 22   | 32 | 25 | 28 | 135 | 8      |



● 千鳥刀 Staggered tooth

| Ordering code | Grade | D  | H  | d  | d1 | L1 | L   | Flutes |
|---------------|-------|----|----|----|----|----|-----|--------|
| TWMT-16-04    | P     | 16 | 4  | 12 | 7  | 15 | 100 | 4      |
| TWMT-16-05    | P     | 16 | 5  | 12 | 7  | 15 | 100 | 4      |
| TWMT-19-05    | P     | 19 | 5  | 12 | 10 | 15 | 100 | 4      |
| TWMT-20-04    | P     | 20 | 4  | 12 | 10 | 15 | 100 | 4      |
| TWMT-20-05    | P     | 20 | 5  | 12 | 10 | 15 | 100 | 4      |
| TWMT-20-06    | P     | 20 | 6  | 12 | 10 | 15 | 100 | 4      |
| TWMT-20-08    | P     | 20 | 8  | 12 | 10 | 15 | 100 | 4      |
| TWMT-20-10    | P     | 20 | 10 | 12 | 10 | 15 | 100 | 4      |
| TWMT-25-04    | P     | 25 | 4  | 16 | 13 | 15 | 120 | 6      |
| TWMT-25-05    | P     | 25 | 5  | 16 | 13 | 15 | 120 | 6      |
| TWMT-25-06    | P     | 25 | 6  | 16 | 13 | 15 | 120 | 6      |
| TWMT-25-08    | P     | 25 | 8  | 16 | 13 | 15 | 120 | 6      |
| TWMT-25-10    | P     | 25 | 10 | 16 | 13 | 15 | 120 | 6      |
| TWMT-25-12    | P     | 25 | 12 | 16 | 13 | 15 | 120 | 6      |
| TWMT-30-04    | P     | 30 | 4  | 16 | 15 | 15 | 120 | 6      |
| TWMT-30-05    | P     | 30 | 5  | 16 | 15 | 15 | 120 | 6      |
| TWMT-30-06    | P     | 30 | 6  | 16 | 15 | 15 | 120 | 6      |
| TWMT-30-08    | P     | 30 | 8  | 16 | 15 | 15 | 120 | 6      |
| TWMT-30-10    | K     | 30 | 10 | 16 | 15 | 15 | 120 | 6      |
| TWMT-30-10    | P     | 30 | 10 | 16 | 15 | 15 | 120 | 6      |
| TWMT-30-12    | P     | 30 | 12 | 16 | 15 | 15 | 120 | 6      |
| TWMT-30-12    | K     | 30 | 12 | 16 | 15 | 15 | 120 | 6      |
| TWMT-32-04    | P     | 32 | 4  | 16 | 15 | 15 | 120 | 6      |
| TWMT-32-06    | P     | 32 | 6  | 16 | 15 | 15 | 120 | 6      |
| TWMT-32-06    | K     | 32 | 6  | 16 | 15 | 15 | 120 | 6      |
| TWMT-32-08    | P     | 32 | 8  | 16 | 15 | 15 | 120 | 6      |
| TWMT-32-08    | K     | 32 | 8  | 16 | 15 | 15 | 120 | 6      |
| TWMT-32-10    | P     | 32 | 10 | 16 | 15 | 15 | 120 | 6      |

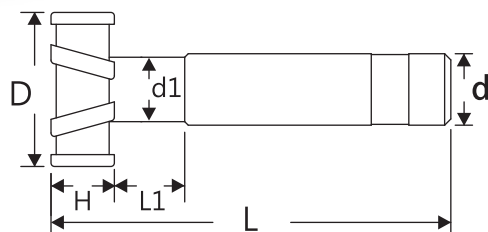


| Ordering code | Grade | D  | H  | d  | d1 | L1 | L   | Flutes |
|---------------|-------|----|----|----|----|----|-----|--------|
| TWMT-32-12    | P     | 32 | 12 | 16 | 15 | 15 | 120 | 6      |
| TWMT-32-12    | K     | 32 | 12 | 16 | 15 | 15 | 120 | 6      |
| TWMT-35-04    | P     | 35 | 04 | 16 | 15 | 15 | 120 | 6      |
| TWMT-35-05    | P     | 35 | 05 | 16 | 15 | 15 | 120 | 6      |
| TWMT-35-06    | P     | 35 | 06 | 16 | 15 | 15 | 120 | 6      |
| TWMT-35-08    | P     | 35 | 08 | 16 | 15 | 15 | 120 | 6      |
| TWMT-35-10    | P     | 35 | 10 | 16 | 15 | 15 | 120 | 6      |
| TWMT-35-12    | P     | 35 | 12 | 16 | 15 | 15 | 120 | 6      |
| TWMT-40-05    | P     | 40 | 05 | 25 | 21 | 15 | 140 | 6      |
| TWMT-40-06    | P     | 40 | 06 | 25 | 21 | 15 | 140 | 6      |
| TWMT-40-06    | K     | 40 | 06 | 25 | 21 | 15 | 140 | 6      |
| TWMT-40-08    | P     | 40 | 08 | 25 | 21 | 15 | 140 | 6      |
| TWMT-40-08    | K     | 40 | 08 | 25 | 21 | 15 | 140 | 6      |
| TWMT-40-10    | P     | 40 | 10 | 25 | 21 | 15 | 140 | 6      |
| TWMT-40-12    | P     | 40 | 12 | 25 | 21 | 15 | 140 | 6      |
| TWMT-45-05-20 | P     | 45 | 05 | 20 | 23 | 15 | 140 | 6      |
| TWMT-45-05    | P     | 45 | 05 | 25 | 23 | 15 | 140 | 6      |
| TWMT-45-05    | K     | 45 | 05 | 25 | 23 | 15 | 140 | 6      |
| TWMT-45-06-20 | P     | 45 | 06 | 20 | 23 | 15 | 140 | 6      |
| TWMT-45-06    | P     | 45 | 06 | 25 | 23 | 15 | 140 | 6      |
| TWMT-45-06    | K     | 45 | 06 | 25 | 23 | 15 | 140 | 6      |
| TWMT-45-08    | P     | 45 | 08 | 25 | 23 | 15 | 140 | 6      |
| TWMT-45-08    | K     | 45 | 08 | 25 | 23 | 15 | 140 | 6      |
| TWMT-45-10    | P     | 45 | 10 | 25 | 23 | 15 | 140 | 6      |
| TWMT-45-10-8T | P     | 45 | 10 | 25 | 23 | 15 | 140 | 8      |
| TWMT-45-12    | P     | 45 | 12 | 25 | 23 | 15 | 140 | 6      |
| TWMT-45-12-8T | P     | 45 | 12 | 25 | 23 | 15 | 140 | 8      |
| TWMT-50-06    | P     | 50 | 6  | 25 | 24 | 15 | 140 | 8      |
| TWMT-50-08    | P     | 50 | 8  | 25 | 24 | 15 | 140 | 8      |
| TWMT-50-10    | P     | 50 | 10 | 25 | 24 | 15 | 140 | 8      |
| TWMT-50-10    | K     | 50 | 10 | 25 | 24 | 15 | 140 | 8      |
| TWMT-50-12    | P     | 50 | 12 | 25 | 24 | 15 | 140 | 8      |
| TWMT-60-10    | P     | 60 | 10 | 32 | 30 | 20 | 140 | 10     |
| TWMT-75-10    | P     | 75 | 10 | 32 | 30 | 26 | 165 | 14     |
| TWMT-75-12    | P     | 75 | 12 | 32 | 30 | 26 | 165 | 14     |
| TWMT-75-15    | P     | 75 | 15 | 32 | 30 | 26 | 165 | 14     |



TWTL 長柄T型刀

Long shank slotting cutters



● 千鳥刀 Staggered tooth

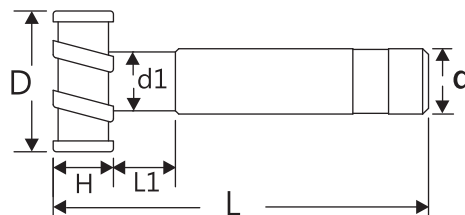
| Ordering code  | Grade | D  | H  | d  | d1  | L1 | L   | Flutes |
|----------------|-------|----|----|----|-----|----|-----|--------|
| TWTL-20-04     | P     | 20 | 4  | 12 | 9.5 | 15 | 150 | 4      |
| TWTL-20-05     | P     | 20 | 5  | 12 | 9.5 | 15 | 150 | 4      |
| TWTL-20-06     | P     | 20 | 6  | 12 | 9.5 | 15 | 150 | 4      |
| TWTL-20-08     | P     | 20 | 8  | 12 | 9.5 | 15 | 150 | 4      |
| TWTL-25-04     | P     | 25 | 4  | 16 | 13  | 15 | 180 | 6      |
| TWTL-25-05-150 | P     | 25 | 5  | 16 | 13  | 15 | 150 | 6      |
| TWTL-25-05     | P     | 25 | 5  | 16 | 13  | 15 | 180 | 6      |
| TWTL-25-06     | P     | 25 | 6  | 16 | 13  | 15 | 180 | 6      |
| TWTL-25-08     | P     | 25 | 8  | 16 | 13  | 15 | 180 | 6      |
| TWTL-30-06-150 | P     | 30 | 6  | 20 | 13  | 20 | 150 | 6      |
| TWTL-30-06     | P     | 30 | 6  | 20 | 13  | 20 | 200 | 6      |
| TWTL-30-08-150 | P     | 30 | 8  | 20 | 13  | 20 | 150 | 6      |
| TWTL-30-08     | P     | 30 | 8  | 20 | 13  | 20 | 200 | 6      |
| TWTL-35-06-150 | P     | 35 | 6  | 20 | 18  | 20 | 150 | 6      |
| TWTL-35-06     | P     | 35 | 6  | 20 | 18  | 20 | 200 | 6      |
| TWTL-35-08-150 | P     | 35 | 8  | 20 | 18  | 20 | 150 | 6      |
| TWTL-35-08     | P     | 35 | 8  | 20 | 18  | 20 | 200 | 6      |
| TWTL-35-10     | P     | 35 | 10 | 20 | 18  | 20 | 200 | 6      |
| TWTL-40-06     | P     | 40 | 6  | 25 | 21  | 20 | 200 | 6      |
| TWTL-40-08     | P     | 40 | 8  | 25 | 21  | 20 | 200 | 6      |
| TWTL-40-10     | P     | 40 | 10 | 25 | 21  | 20 | 200 | 6      |





# TWTB 右斜刃T型刀

## Parallel tooth T-slots



● 右斜刃 Parallel tooth

| Ordering code | D  | H  | d  | d1  | L1 | L   | Flutes | Grade |
|---------------|----|----|----|-----|----|-----|--------|-------|
| TWTB-15-02    | 15 | 2  | 12 | 7   | 15 | 100 | 4      | CU    |
| TWTB-15-03    | 15 | 3  | 12 | 7   | 15 | 100 | 4      |       |
| TWTB-15-04    | 15 | 4  | 12 | 7   | 15 | 100 | 4      |       |
| TWTB-15-05    | 15 | 5  | 12 | 7   | 15 | 100 | 4      |       |
| TWTB-15-06    | 15 | 6  | 12 | 7   | 15 | 100 | 4      |       |
| TWTB-16-02    | 16 | 2  | 12 | 7   | 15 | 100 | 4      |       |
| TWTB-16-03    | 16 | 3  | 12 | 7   | 15 | 100 | 4      |       |
| TWTB-16-04    | 16 | 4  | 12 | 7   | 15 | 100 | 4      |       |
| TWTB-16-05    | 16 | 5  | 12 | 7   | 15 | 100 | 4      |       |
| TWTB-16-06    | 16 | 6  | 12 | 7   | 15 | 100 | 4      |       |
| TWTB-20-02    | 20 | 2  | 12 | 9.5 | 15 | 100 | 4      |       |
| TWTB-20-03    | 20 | 3  | 12 | 9.5 | 15 | 100 | 4      |       |
| TWTB-20-04    | 20 | 4  | 12 | 9.5 | 15 | 100 | 4      |       |
| TWTB-20-05    | 20 | 5  | 12 | 9.5 | 15 | 100 | 4      |       |
| TWTB-20-06    | 20 | 6  | 12 | 9.5 | 15 | 100 | 4      |       |
| TWTB-20-08    | 20 | 8  | 12 | 9.5 | 15 | 100 | 4      |       |
| TWTB-20-10    | 20 | 10 | 12 | 9.5 | 15 | 100 | 4      |       |
| TWTB-20-12    | 20 | 12 | 12 | 9.5 | 15 | 100 | 4      |       |
| TWTB-25-02    | 25 | 2  | 16 | 13  | 15 | 100 | 6      |       |
| TWTB-25-03    | 25 | 3  | 16 | 13  | 15 | 100 | 6      |       |
| TWTB-25-04    | 25 | 4  | 16 | 13  | 15 | 100 | 6      |       |
| TWTB-25-05    | 25 | 5  | 16 | 13  | 15 | 100 | 6      |       |
| TWTB-25-06    | 25 | 6  | 16 | 13  | 15 | 100 | 6      |       |
| TWTB-25-08    | 25 | 8  | 16 | 13  | 15 | 100 | 6      |       |
| TWTB-25-10    | 25 | 10 | 16 | 13  | 15 | 100 | 6      |       |
| TWTB-25-12    | 25 | 12 | 16 | 13  | 15 | 100 | 6      |       |
| TWTB-30-02    | 30 | 2  | 20 | 17  | 15 | 100 | 6      |       |
| TWTB-30-03    | 30 | 3  | 16 | 15  | 15 | 100 | 6      |       |
| TWTB-30-04    | 30 | 4  | 16 | 15  | 15 | 100 | 6      |       |
| TWTB-30-05    | 30 | 5  | 16 | 15  | 15 | 100 | 6      |       |



TWTB 右斜刃T型刀

Parallel tooth T-tools



● 右斜刃 Parallel tooth

| Ordering code | D  | H  | d  | d1 | L1 | L   | Flutes | Grade |
|---------------|----|----|----|----|----|-----|--------|-------|
| TWTB-30-06    | 30 | 6  | 16 | 15 | 15 | 100 | 6      | CU    |
| TWTB-30-08    | 30 | 8  | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-30-10    | 30 | 10 | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-30-12    | 30 | 12 | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-32-03    | 32 | 3  | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-32-04    | 32 | 4  | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-32-05    | 32 | 5  | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-32-06    | 32 | 6  | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-32-08    | 32 | 8  | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-32-10    | 32 | 10 | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-32-12    | 32 | 12 | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-35-03    | 35 | 3  | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-35-04    | 35 | 4  | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-35-05    | 35 | 5  | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-35-06    | 35 | 6  | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-35-08    | 35 | 8  | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-35-10    | 35 | 10 | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-35-12    | 35 | 12 | 16 | 15 | 15 | 100 | 6      |       |
| TWTB-38-05    | 38 | 5  | 20 | 18 | 15 | 100 | 6      |       |
| TWTB-38-06    | 38 | 6  | 20 | 18 | 15 | 100 | 6      |       |
| TWTB-38-08    | 38 | 8  | 20 | 18 | 15 | 100 | 6      |       |
| TWTB-38-10    | 38 | 10 | 20 | 18 | 15 | 100 | 6      |       |
| TWTB-38-12    | 38 | 12 | 20 | 18 | 15 | 100 | 6      |       |
| TWTB-40-03    | 40 | 3  | 20 | 19 | 15 | 100 | 6      |       |
| TWTB-40-04    | 40 | 4  | 20 | 19 | 15 | 100 | 6      |       |
| TWTB-40-05    | 40 | 5  | 20 | 19 | 15 | 100 | 6      |       |
| TWTB-40-06    | 40 | 6  | 20 | 19 | 15 | 100 | 6      |       |
| TWTB-40-08    | 40 | 8  | 20 | 19 | 15 | 100 | 6      |       |
| TWTB-40-10    | 40 | 10 | 20 | 19 | 15 | 100 | 6      |       |
| TWTB-40-12    | 40 | 12 | 20 | 19 | 15 | 100 | 6      |       |



# TWTB 右斜刃T型刀

Parallel tooth T-slots



● 右斜刃 Parallel tooth

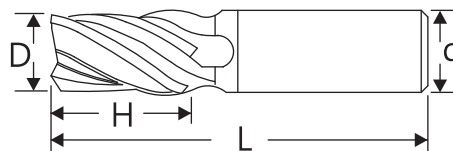
| Ordering code | D  | H  | d  | d1 | L1 | L   | Flutes | Grade |
|---------------|----|----|----|----|----|-----|--------|-------|
| TWTB-45-03    | 45 | 3  | 25 | 22 | 15 | 100 | 6      | CU    |
| TWTB-45-04    | 45 | 4  | 25 | 22 | 15 | 100 | 6      |       |
| TWTB-45-05    | 45 | 5  | 25 | 22 | 15 | 100 | 6      |       |
| TWTB-45-06    | 45 | 6  | 25 | 22 | 15 | 100 | 6      |       |
| TWTB-45-08    | 45 | 8  | 25 | 22 | 15 | 100 | 6      |       |
| TWTB-45-10    | 45 | 10 | 25 | 22 | 15 | 100 | 6      |       |
| TWTB-45-12    | 45 | 12 | 25 | 22 | 15 | 100 | 6      |       |
| TWTB-50-03    | 50 | 3  | 25 | 24 | 15 | 100 | 8      |       |
| TWTB-50-04    | 50 | 4  | 25 | 24 | 15 | 100 | 8      |       |
| TWTB-50-05    | 50 | 5  | 25 | 24 | 15 | 100 | 8      |       |
| TWTB-50-06    | 50 | 6  | 25 | 24 | 15 | 100 | 8      |       |
| TWTB-50-08    | 50 | 8  | 25 | 24 | 15 | 100 | 8      |       |
| TWTB-50-10    | 50 | 10 | 25 | 24 | 15 | 100 | 8      |       |
| TWTB-50-12    | 50 | 12 | 25 | 24 | 15 | 100 | 8      |       |



TWE 螺旋刀銑刀



End mills



| Ordering code | D  | H  | d  | L   | Flutes | Grade |
|---------------|----|----|----|-----|--------|-------|
| TWE-10        | 10 | 22 | 10 | 100 | 2      | K     |
| TWE-11        | 11 | 22 | 12 | 100 | 2      |       |
| TWE-12        | 12 | 22 | 12 | 100 | 2      |       |
| TWE-13        | 13 | 22 | 12 | 100 | 2      |       |
| TWE-14        | 14 | 30 | 16 | 105 | 2      |       |
| TWE-15        | 15 | 30 | 16 | 105 | 2      |       |
| TWE-16        | 16 | 30 | 16 | 105 | 2      |       |
| TWE-17        | 17 | 38 | 20 | 110 | 2      |       |
| TWE-18        | 18 | 38 | 20 | 110 | 2      |       |
| TWE-19        | 19 | 38 | 20 | 110 | 2      |       |
| TWE-20-2T     | 20 | 38 | 20 | 110 | 2      |       |
| TWE-20-3T     | 20 | 38 | 20 | 110 | 3      |       |
| TWE-20-4T     | 20 | 38 | 20 | 110 | 4      |       |
| TWE-21        | 21 | 38 | 20 | 110 | 2      |       |
| TWE-22-2T     | 22 | 38 | 20 | 110 | 2      |       |
| TWE-22-3T     | 22 | 38 | 20 | 110 | 3      |       |
| TWE-22-4T     | 22 | 38 | 20 | 110 | 4      |       |
| TWE-23        | 23 | 40 | 25 | 115 | 3      |       |
| TWE-24-2T     | 24 | 40 | 25 | 115 | 2      |       |
| TWE-24-3T     | 24 | 40 | 25 | 115 | 3      |       |
| TWE-25-2T     | 25 | 40 | 25 | 115 | 2      |       |
| TWE-25-3T     | 25 | 40 | 25 | 115 | 3      |       |
| TWE-25-4T     | 25 | 40 | 25 | 115 | 4      |       |
| TWE-26        | 26 | 40 | 25 | 115 | 3      |       |
| TWE-27        | 27 | 40 | 25 | 115 | 3      |       |
| TWE-28-40H-3T | 28 | 40 | 25 | 115 | 3      |       |
| TWE-28-45H-3T | 28 | 45 | 25 | 115 | 3      |       |
| TWE-28-3T-32  | 28 | 50 | 32 | 130 | 3      |       |
| TWE-28-4T-32  | 28 | 50 | 32 | 130 | 4      |       |



## TWE 螺旋刃銑刀

### End mills

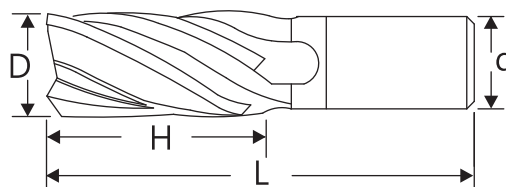
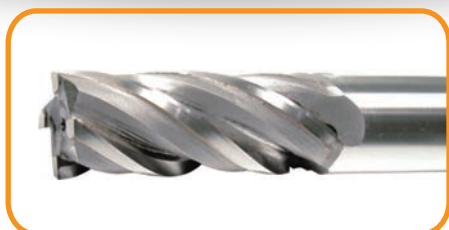


| Ordering code | D  | H  | d  | L   | Flutes | Grade |
|---------------|----|----|----|-----|--------|-------|
| TWE-29        | 29 | 50 | 32 | 130 | 4      | K     |
| TWE-30        | 30 | 50 | 32 | 130 | 4      |       |
| TWE-32        | 32 | 50 | 32 | 130 | 4      |       |
| TWE-35        | 35 | 50 | 32 | 130 | 4      |       |
| TWE-40        | 40 | 50 | 32 | 135 | 4      |       |
| TWE-45        | 45 | 50 | 32 | 135 | 4      |       |
| TWE-50-32     | 50 | 50 | 32 | 135 | 4      |       |
| TWE-50-42     | 50 | 50 | 42 | 135 | 4      |       |



## TWEH 螺旋刃長刃銑刀

### Long flutes end mills



| Ordering code | D  | H  | d  | L   | Flutes | Grade |
|---------------|----|----|----|-----|--------|-------|
| TWEH-16-050   | 16 | 50 | 16 | 130 | 2      | K     |
| TWEH-20-060-2 | 20 | 60 | 20 | 140 | 2      |       |
| TWEH-20-060-3 | 20 | 60 | 20 | 140 | 3      |       |
| TWEH-20-060-4 | 20 | 60 | 20 | 140 | 4      |       |
| TWEH-20-075-2 | 20 | 75 | 20 | 155 | 2      |       |
| TWEH-20-075-3 | 20 | 75 | 20 | 155 | 3      |       |
| TWEH-20-075-4 | 20 | 75 | 20 | 155 | 4      |       |



# TWEH 螺旋刃長刃銑刀

Long flutes end mills

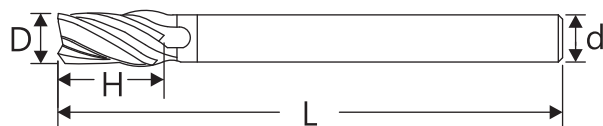


| Ordering code  | D  | H   | d  | L   | Flutes | Grade |
|----------------|----|-----|----|-----|--------|-------|
| TWEH-25-050    | 25 | 50  | 25 | 130 | 4      | K     |
| TWEH-25-080-3  | 25 | 80  | 25 | 160 | 3      |       |
| TWEH-25-080-4  | 25 | 80  | 25 | 160 | 4      |       |
| TWEH-30-065    | 30 | 65  | 32 | 145 | 4      |       |
| TWEH-30-080    | 30 | 80  | 32 | 160 | 4      |       |
| TWEH-30-100    | 30 | 100 | 32 | 205 | 4      |       |
| TWEH-30-120    | 30 | 120 | 32 | 220 | 4      |       |
| TWEH-32-065    | 32 | 65  | 32 | 145 | 4      |       |
| TWEH-32-080    | 32 | 80  | 32 | 160 | 4      |       |
| TWEH-32-100    | 32 | 100 | 32 | 205 | 4      |       |
| TWEH-32-120    | 32 | 120 | 32 | 220 | 4      |       |
| TWEH-35-065    | 35 | 65  | 32 | 145 | 4      |       |
| TWEH-35-080    | 35 | 80  | 32 | 160 | 4      |       |
| TWEH-35-100    | 35 | 100 | 32 | 205 | 4      |       |
| TWEH-35-135    | 35 | 135 | 32 | 240 | 4      |       |
| TWEH-40-065    | 40 | 65  | 32 | 145 | 4      |       |
| TWEH-40-080    | 40 | 80  | 32 | 160 | 4      |       |
| TWEH-40-100    | 40 | 100 | 32 | 205 | 4      |       |
| TWEH-40-135    | 40 | 135 | 32 | 240 | 4      |       |
| TWEH-40-150    | 40 | 150 | 32 | 245 | 4      |       |
| TWEH-40-160-32 | 40 | 160 | 32 | 265 | 4      |       |
| TWEH-40-160-42 | 40 | 160 | 42 | 265 | 4      |       |
| TWEH-45-075    | 45 | 75  | 42 | 170 | 4      |       |
| TWEH-50-100-4  | 50 | 100 | 42 | 205 | 4      |       |
| TWEH-50-100-6  | 50 | 100 | 42 | 205 | 6      |       |
| TWEH-50-125-4  | 50 | 125 | 42 | 230 | 4      |       |
| TWEH-50-125-6  | 50 | 125 | 42 | 230 | 6      |       |
| TWEH-50-150-4  | 50 | 150 | 42 | 255 | 4      |       |
| TWEH-50-150-6  | 50 | 150 | 42 | 255 | 6      |       |
| TWEH-50-200-4  | 50 | 200 | 42 | 305 | 4      |       |
| TWEH-50-200-6  | 50 | 200 | 42 | 305 | 6      |       |



# TWEL 螺旋刃長柄銑刀

Long shank end mills

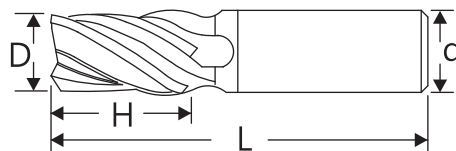


| Ordering code | D  | H  | d  | L   | Flutes | Grade |
|---------------|----|----|----|-----|--------|-------|
| TWEL-10-130   | 10 | 22 | 10 | 130 | 2      | K     |
| TWEL-12-130   | 12 | 22 | 12 | 130 | 2      |       |
| TWEL-16-130   | 16 | 30 | 16 | 130 | 2      |       |
| TWEL-16-150   | 16 | 30 | 16 | 150 | 2      |       |
| TWEL-16-180   | 16 | 30 | 16 | 180 | 2      |       |
| TWEL-18-160   | 18 | 30 | 16 | 160 | 2      |       |
| TWEL-18-200   | 18 | 30 | 16 | 200 | 2      |       |
| TWEL-20-130   | 20 | 38 | 20 | 130 | 2      |       |
| TWEL-20-160   | 20 | 38 | 20 | 160 | 2      |       |
| TWEL-20-200   | 20 | 38 | 20 | 200 | 2      |       |
| TWEL-22-160   | 22 | 38 | 20 | 160 | 2      |       |
| TWEL-22-200   | 22 | 38 | 20 | 200 | 2      |       |
| TWEL-25-160   | 25 | 40 | 25 | 160 | 4      |       |
| TWEL-25-220   | 25 | 40 | 25 | 220 | 4      |       |
| TWEL-30-160   | 30 | 50 | 25 | 160 | 4      |       |
| TWEL-30-220   | 30 | 50 | 25 | 220 | 4      |       |
| TWEL-30-250   | 30 | 50 | 25 | 250 | 4      |       |
| TWEL-32-180   | 32 | 50 | 32 | 180 | 4      |       |
| TWEL-32-220   | 32 | 50 | 32 | 220 | 4      |       |
| TWEL-32-250   | 32 | 50 | 32 | 250 | 4      |       |
| TWEL-35-180   | 35 | 50 | 32 | 180 | 4      |       |
| TWEL-35-220   | 35 | 50 | 32 | 220 | 4      |       |
| TWEL-35-250   | 35 | 50 | 32 | 250 | 4      |       |
| TWEL-40-180   | 40 | 50 | 32 | 180 | 4      |       |
| TWEL-40-250   | 40 | 50 | 32 | 250 | 4      |       |



# TWEB1 螺旋刃銑刀

End mills



| Ordering code | D  | H  | d  | L   | Flutes | Grade |
|---------------|----|----|----|-----|--------|-------|
| TWEB1-10      | 10 | 22 | 10 | 100 | 2      | CU    |
| TWEB1-11      | 11 | 22 | 12 | 100 | 2      |       |
| TWEB1-12      | 12 | 22 | 12 | 100 | 2      |       |
| TWEB1-13      | 13 | 22 | 12 | 100 | 2      |       |
| TWEB1-14      | 14 | 30 | 16 | 105 | 2      |       |
| TWEB1-15      | 15 | 30 | 16 | 105 | 2      |       |
| TWEB1-16-2T   | 16 | 30 | 16 | 105 | 2      |       |
| TWEB1-16-3T   | 16 | 30 | 16 | 105 | 3      |       |
| TWEB1-16-4T   | 16 | 30 | 16 | 105 | 4      |       |
| TWEB1-17-2T   | 17 | 38 | 20 | 110 | 2      |       |
| TWEB1-17-4T   | 17 | 38 | 20 | 110 | 4      |       |
| TWEB1-18-2T   | 18 | 38 | 20 | 110 | 2      |       |
| TWEB1-18-3T   | 18 | 38 | 20 | 110 | 3      |       |
| TWEB1-18-4T   | 18 | 38 | 20 | 110 | 4      |       |
| TWEB1-19-2T   | 19 | 38 | 20 | 110 | 2      |       |
| TWEB1-19-4T   | 19 | 38 | 20 | 110 | 4      |       |
| TWEB1-20-2T   | 20 | 38 | 20 | 110 | 2      |       |
| TWEB1-20-3T   | 20 | 38 | 20 | 110 | 3      |       |
| TWEB1-20-4T   | 20 | 38 | 20 | 110 | 4      |       |
| TWEB1-21-2T   | 21 | 38 | 20 | 110 | 2      |       |
| TWEB1-21-3T   | 21 | 38 | 20 | 110 | 3      |       |
| TWEB1-21-4T   | 21 | 38 | 20 | 110 | 4      |       |
| TWEB1-22-2T   | 22 | 38 | 20 | 110 | 2      |       |
| TWEB1-22-3T   | 22 | 38 | 20 | 110 | 3      |       |
| TWEB1-22-4T   | 22 | 38 | 20 | 110 | 4      |       |
| TWEB1-23-3T   | 23 | 40 | 25 | 115 | 3      |       |
| TWEB1-23-4T   | 23 | 40 | 25 | 115 | 4      |       |
| TWEB1-24-2T   | 24 | 40 | 25 | 115 | 2      |       |
| TWEB1-24-3T   | 24 | 40 | 25 | 115 | 3      |       |





# TWEB1 螺旋刃銑刀

End mills



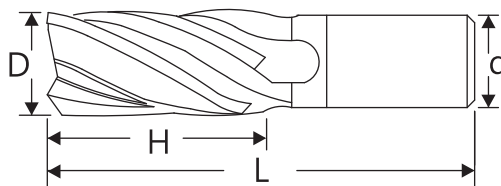
| Ordering code     | D  | H  | d  | L   | Flutes | Grade |
|-------------------|----|----|----|-----|--------|-------|
| TWEB1-24-4T       | 24 | 40 | 25 | 115 | 4      | CU    |
| TWEB1-25-2T       | 25 | 40 | 25 | 115 | 2      |       |
| TWEB1-25-3T       | 25 | 40 | 25 | 115 | 3      |       |
| TWEB1-25-4T       | 25 | 40 | 25 | 115 | 4      |       |
| TWEB1-25-50-3T    | 25 | 50 | 25 | 115 | 3      |       |
| TWEB1-25-50-4T    | 25 | 50 | 25 | 115 | 4      |       |
| TWEB1-26-3T       | 26 | 40 | 25 | 115 | 3      |       |
| TWEB1-26-4T       | 26 | 40 | 25 | 115 | 4      |       |
| TWEB1-27-3T       | 27 | 40 | 25 | 115 | 3      |       |
| TWEB1-27-4T       | 27 | 40 | 25 | 115 | 4      |       |
| TWEB1-28-3T       | 28 | 40 | 25 | 115 | 3      |       |
| TWEB1-28-4T       | 28 | 40 | 25 | 115 | 4      |       |
| TWEB1-28-50-3T-25 | 28 | 50 | 25 | 130 | 3      |       |
| TWEB1-28-50-3T-32 | 28 | 50 | 32 | 130 | 3      |       |
| TWEB1-28-50-4T-25 | 28 | 50 | 25 | 130 | 4      |       |
| TWEB1-28-50-4T-32 | 28 | 50 | 32 | 130 | 4      |       |
| TWEB1-29          | 29 | 50 | 25 | 130 | 4      |       |
| TWEB1-30-25       | 30 | 50 | 25 | 130 | 4      |       |
| TWEB1-30-32       | 30 | 50 | 32 | 130 | 4      |       |
| TWEB1-32          | 32 | 50 | 32 | 130 | 4      |       |
| TWEB1-35          | 35 | 50 | 32 | 130 | 4      |       |
| TWEB1-38          | 38 | 50 | 32 | 130 | 4      |       |
| TWEB1-40          | 40 | 50 | 32 | 135 | 4      |       |
| TWEB1-45          | 45 | 50 | 32 | 135 | 4      |       |
| TWEB1-50-4T       | 50 | 50 | 32 | 135 | 4      |       |
| TWEB1-50-6T       | 50 | 50 | 32 | 135 | 6      |       |

| Ordering code | D      | H  | d  | L   | Flutes | Grade |
|---------------|--------|----|----|-----|--------|-------|
| TWEB1-I-1/2   | 12.7   | 22 | 12 | 100 | 2      | CU    |
| TWEB1-I-5/8   | 15.875 | 30 | 16 | 105 | 2      |       |
| TWEB1-I-3/4   | 19.05  | 38 | 20 | 110 | 2      |       |
| TWEB1-I-7/8   | 22.22  | 40 | 20 | 110 | 2      |       |
| TWEB1-I-1"    | 25.4   | 40 | 25 | 115 | 2      |       |



# TWEHB1 螺旋長刃銑刀

Long flutes end mills



B type 是為對接式 B type were welded coalescent carbide blade.

| Ordering code    | D  | H   | d  | L   | Flutes | Grade |
|------------------|----|-----|----|-----|--------|-------|
| TWEHB1-15-050    | 15 | 50  | 16 | 130 | 3      | CU    |
| TWEHB1-16-050-2  | 16 | 50  | 16 | 130 | 2      |       |
| TWEHB1-16-050-4  | 16 | 50  | 16 | 130 | 4      |       |
| TWEHB1-16-065    | 16 | 65  | 16 | 145 | 4      |       |
| TWEHB1-18-050    | 18 | 50  | 20 | 130 | 4      |       |
| TWEHB1-18-065    | 18 | 65  | 20 | 145 | 4      |       |
| TWEHB1-20-060-2  | 20 | 60  | 20 | 140 | 2      |       |
| TWEHB1-20-060-3  | 20 | 60  | 20 | 140 | 3      |       |
| TWEHB1-20-060-4  | 20 | 60  | 20 | 140 | 4      |       |
| TWEHB1-20-075-3  | 20 | 75  | 20 | 155 | 3      |       |
| TWEHB1-20-075-4  | 20 | 75  | 20 | 155 | 4      |       |
| TWEHB1-22-060-3  | 22 | 60  | 20 | 145 | 3      |       |
| TWEHB1-22-060-4  | 22 | 60  | 20 | 145 | 4      |       |
| TWEHB1-22-075    | 22 | 75  | 20 | 155 | 4      |       |
| TWEHB1-25-065    | 25 | 65  | 25 | 145 | 4      |       |
| TWEHB1-25-080-3  | 25 | 80  | 25 | 155 | 3      |       |
| TWEHB1-25-080-4  | 25 | 80  | 25 | 155 | 4      |       |
| TWEHB1-25-135-B  | 25 | 135 | 25 | 235 | 4      |       |
| TWEHB1-26-050    | 26 | 50  | 25 | 130 | 4      |       |
| TWEHB1-26-080    | 26 | 80  | 25 | 160 | 4      |       |
| TWEHB1-28-080    | 28 | 80  | 25 | 160 | 4      |       |
| TWEHB1-30-065    | 30 | 65  | 25 | 145 | 4      |       |
| TWEHB1-30-080-25 | 30 | 80  | 25 | 160 | 4      |       |
| TWEHB1-30-080-32 | 30 | 80  | 32 | 160 | 4      |       |
| TWEHB1-30-100    | 30 | 100 | 32 | 205 | 4      |       |
| TWEHB1-32-065    | 32 | 65  | 32 | 145 | 4      |       |
| TWEHB1-32-080    | 32 | 80  | 32 | 160 | 4      |       |
| TWEHB1-32-100    | 32 | 100 | 32 | 205 | 4      |       |
| TWEHB1-35-065    | 35 | 65  | 32 | 145 | 4      |       |



## TWEHB1 螺旋長刃銑刀

Long flutes end mills

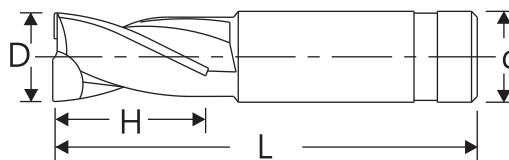


| Ordering code    | D  | H   | d  | L   | Flutes | Grade |
|------------------|----|-----|----|-----|--------|-------|
| TWEHB1-35-080    | 35 | 80  | 32 | 160 | 4      | CU    |
| TWEHB1-35-100    | 35 | 100 | 32 | 205 | 4      |       |
| TWEHB1-40-065    | 40 | 65  | 32 | 145 | 4      |       |
| TWEHB1-40-080    | 40 | 80  | 32 | 160 | 4      |       |
| TWEHB1-40-100    | 40 | 100 | 32 | 205 | 4      |       |
| TWEHB1-50-080    | 50 | 80  | 32 | 165 | 4      |       |
| TWEHB1-50-080-32 | 50 | 80  | 32 | 165 | 6      |       |
| TWEHB1-50-080-42 | 50 | 80  | 42 | 165 | 6      |       |



## TWEB1D 過中心螺旋銑刀

Center-cut end mills

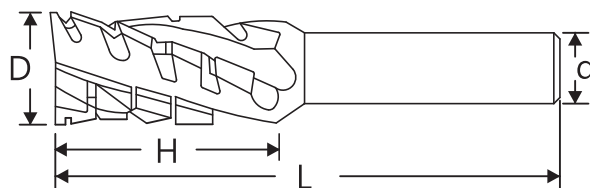


| Ordering code | D  | H  | d  | L   | Flutes | Grade |
|---------------|----|----|----|-----|--------|-------|
| TWEB1D-12     | 12 | 22 | 12 | 100 | 2      | CU    |
| TWEB1D-14     | 14 | 30 | 16 | 105 | 2      |       |
| TWEB1D-15     | 15 | 30 | 16 | 105 | 2      |       |
| TWEB1D-16     | 16 | 30 | 16 | 105 | 2      |       |
| TWEB1D-18     | 18 | 40 | 20 | 110 | 2      |       |
| TWEB1D-20     | 20 | 40 | 20 | 110 | 2      |       |
| TWEB1D-22     | 22 | 40 | 20 | 110 | 2      |       |
| TWEB1D-24     | 24 | 40 | 25 | 115 | 2      |       |
| TWEB1D-25     | 25 | 40 | 25 | 115 | 2      |       |
| TWEB1D-28     | 28 | 40 | 25 | 115 | 2      |       |
| TWEB1D-30-25  | 30 | 50 | 25 | 130 | 2      |       |
| TWEB1D-30-32  | 30 | 50 | 32 | 130 | 2      |       |
| TWEB1D-32     | 32 | 50 | 32 | 130 | 2      |       |
| TWEB1D-35     | 35 | 50 | 32 | 130 | 2      |       |
| TWEB1D-38     | 38 | 50 | 32 | 135 | 2      |       |
| TWEB1D-40     | 40 | 50 | 32 | 135 | 2      |       |
| TWEB1D-40-200 | 40 | 65 | 32 | 200 | 2      |       |



# TWER5 螺旋刃粗銑刀

## Roughing end mills

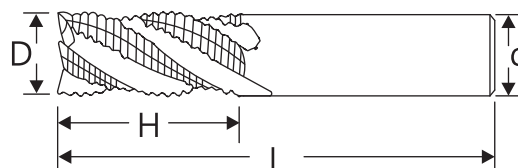


| Ordering code   | D  | H   | d  | L   | Flutes | Grade |
|-----------------|----|-----|----|-----|--------|-------|
| TWER5-25-060-3  | 25 | 60  | 25 | 140 | 3      | K     |
| TWER5-30-060    | 30 | 60  | 32 | 140 | 4      |       |
| TWER5-30-080    | 30 | 80  | 32 | 160 | 4      |       |
| TWER5-30-105    | 30 | 105 | 32 | 205 | 4      |       |
| TWER5-32-060    | 32 | 60  | 32 | 140 | 4      |       |
| TWER5-32-080    | 32 | 80  | 32 | 160 | 4      |       |
| TWER5-32-105    | 32 | 105 | 32 | 205 | 4      |       |
| TWER5-35-060    | 35 | 60  | 32 | 140 | 4      |       |
| TWER5-35-080    | 35 | 80  | 32 | 160 | 4      |       |
| TWER5-35-105    | 35 | 105 | 32 | 205 | 4      |       |
| TWER5-40-060    | 40 | 60  | 32 | 140 | 4      |       |
| TWER5-40-080    | 40 | 80  | 32 | 160 | 4      |       |
| TWER5-40-105    | 40 | 105 | 32 | 205 | 4      |       |
| TWER5-40-135    | 40 | 135 | 32 | 240 | 4      |       |
| TWER5-40-160-32 | 40 | 160 | 32 | 250 | 4      |       |
| TWER5-40-160-42 | 40 | 160 | 42 | 250 | 4      |       |
| TWER5-50-105-4  | 50 | 105 | 42 | 205 | 4      |       |
| TWER5-50-105-5  | 50 | 105 | 42 | 205 | 5      |       |
| TWER5-50-105-6  | 50 | 105 | 42 | 205 | 6      |       |
| TWER5-50-125-4  | 50 | 125 | 42 | 225 | 4      |       |
| TWER5-50-125-5  | 50 | 125 | 42 | 225 | 5      |       |
| TWER5-50-125-6  | 50 | 125 | 42 | 225 | 6      |       |
| TWER5-50-150-4  | 50 | 150 | 42 | 250 | 4      |       |
| TWER5-50-150-5  | 50 | 150 | 42 | 250 | 5      |       |
| TWER5-50-150-6  | 50 | 150 | 42 | 250 | 6      |       |
| TWER5-50-200-4  | 50 | 200 | 42 | 300 | 4      |       |
| TWER5-50-200-5  | 50 | 200 | 42 | 300 | 5      |       |
| TWER5-50-200-6  | 50 | 200 | 42 | 300 | 6      |       |



# TWER6 螺旋刃細齒銑刀 Fine pitch end mills

P M K

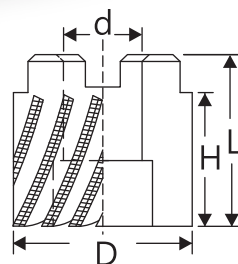


| Ordering code | D  | H  | d  | L   | Flutes | Grade |
|---------------|----|----|----|-----|--------|-------|
| TWER6-16      | 16 | 30 | 16 | 105 | 3      | K     |
| TWER6-17-3    | 17 | 38 | 20 | 110 | 3      |       |
| TWER6-17-4    | 17 | 38 | 20 | 110 | 4      |       |
| TWER6-18-3    | 18 | 38 | 20 | 110 | 3      |       |
| TWER6-18-4    | 18 | 38 | 20 | 110 | 4      |       |
| TWER6-19      | 19 | 38 | 20 | 110 | 3      |       |
| TWER6-20-3    | 20 | 38 | 20 | 110 | 3      |       |
| TWER6-20-4    | 20 | 38 | 20 | 110 | 4      |       |
| TWER6-21-3    | 21 | 38 | 20 | 110 | 3      |       |
| TWER6-21-4    | 21 | 38 | 20 | 110 | 4      |       |
| TWER6-22-3    | 22 | 38 | 20 | 110 | 3      |       |
| TWER6-22-4    | 22 | 38 | 20 | 110 | 4      |       |
| TWER6-23-3    | 23 | 40 | 25 | 115 | 3      |       |
| TWER6-23-4    | 23 | 40 | 25 | 115 | 4      |       |
| TWER6-24-3    | 24 | 40 | 25 | 115 | 3      |       |
| TWER6-24-4    | 24 | 40 | 25 | 115 | 4      |       |
| TWER6-25-3    | 25 | 40 | 25 | 115 | 3      |       |
| TWER6-25-4    | 25 | 40 | 25 | 115 | 4      |       |
| TWER6-25-50   | 25 | 50 | 25 | 130 | 4      |       |
| TWER6-26-3    | 26 | 40 | 25 | 115 | 3      |       |
| TWER6-26-4    | 26 | 40 | 25 | 115 | 4      |       |
| TWER6-27      | 27 | 40 | 25 | 115 | 4      |       |
| TWER6-27-45-3 | 27 | 45 | 25 | 115 | 3      |       |
| TWER6-27-45-4 | 27 | 45 | 25 | 115 | 4      |       |
| TWER6-28-40   | 28 | 40 | 25 | 115 | 4      |       |
| TWER6-28-45   | 28 | 45 | 25 | 120 | 4      |       |
| TWER6-30-25   | 30 | 50 | 25 | 130 | 4      |       |
| TWER6-30-32   | 30 | 50 | 32 | 130 | 4      |       |
| TWER6-32      | 32 | 50 | 32 | 130 | 4      |       |



## TWER6 螺旋刃筒狀細齒銑刀

Fine pitch end mills

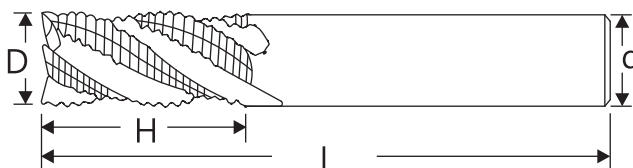
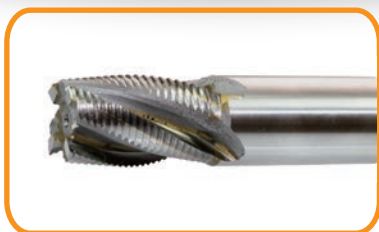


| Ordering code | D  | H  | d    | L  | Flutes | Grade |
|---------------|----|----|------|----|--------|-------|
| TWER6-60      | 60 | 55 | 25.4 | 70 | 6      | K     |



## TWERL6 螺旋刃長柄細齒銑刀

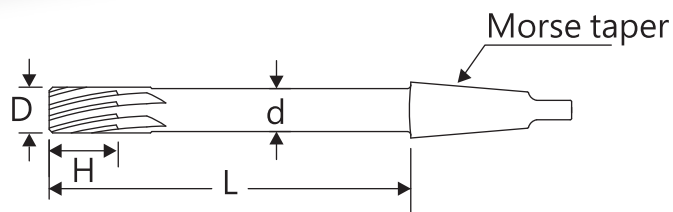
Fine pitch long shank end mills



| Ordering code | D  | H  | d  | L   | Flutes | Grade |
|---------------|----|----|----|-----|--------|-------|
| TWERL6-16     | 16 | 30 | 16 | 150 | 3      | K     |
| TWERL6-16-40  | 16 | 40 | 16 | 180 | 3      |       |
| TWERL6-16-50  | 16 | 50 | 16 | 130 | 3      |       |
| TWERL6-18     | 18 | 30 | 16 | 160 | 3      |       |
| TWERL6-20     | 20 | 38 | 20 | 160 | 4      |       |
| TWERL6-20-60  | 20 | 60 | 20 | 160 | 4      |       |
| TWERL6-22     | 22 | 38 | 20 | 160 | 4      |       |
| TWERL6-25     | 25 | 40 | 25 | 160 | 4      |       |
| TWERL6-25-080 | 25 | 80 | 25 | 190 | 4      |       |
| TWERL6-30     | 30 | 50 | 25 | 160 | 4      |       |
| TWERL6-32     | 32 | 50 | 32 | 180 | 4      |       |
| TWERL6-35     | 35 | 50 | 32 | 180 | 4      |       |
| TWERL6-40     | 40 | 50 | 32 | 180 | 4      |       |
| TWERL6-40-080 | 40 | 80 | 32 | 160 | 4      |       |



# TWR 莫式斜柄螺旋鉋刀 Morse taper reamers



- Morse Taper Shank
- Accuracy D +0.005  
+0.01  
+0.02  
+0.025  
+0.05

| Ordering code | D  | H  | d  | L   | Morse Taper | Flutes |
|---------------|----|----|----|-----|-------------|--------|
| TWR-12+0.005  | 12 | 20 | 11 | 150 | MT2         | 4      |
| TWR-12+0.01   | 12 | 20 | 11 | 150 | MT2         | 4      |
| TWR-12+0.02   | 12 | 20 | 11 | 150 | MT2         | 4      |
| TWR-12+0.025  | 12 | 20 | 11 | 150 | MT2         | 4      |
| TWR-12+0.05   | 12 | 20 | 11 | 150 | MT2         | 4      |
| TWR-13+0.01   | 13 | 20 | 12 | 150 | MT2         | 4      |
| TWR-13+0.02   | 13 | 20 | 12 | 150 | MT2         | 4      |
| TWR-14+0.01   | 14 | 20 | 13 | 150 | MT2         | 4      |
| TWR-14+0.02   | 14 | 20 | 13 | 150 | MT2         | 4      |
| TWR-15+0.01   | 15 | 25 | 14 | 150 | MT3         | 4      |
| TWR-15+0.02   | 15 | 25 | 14 | 150 | MT3         | 4      |
| TWR-16+0.005  | 16 | 25 | 15 | 150 | MT3         | 4      |
| TWR-16+0.01   | 16 | 25 | 15 | 150 | MT3         | 4      |
| TWR-16+0.02   | 16 | 25 | 15 | 150 | MT3         | 4      |
| TWR-16+0.025  | 16 | 25 | 15 | 150 | MT3         | 4      |
| TWR-16+0.05   | 16 | 25 | 15 | 150 | MT3         | 4      |
| TWR-17+0.01   | 17 | 25 | 16 | 150 | MT3         | 4      |
| TWR-17+0.02   | 17 | 25 | 16 | 150 | MT3         | 4      |
| TWR-18+0.01   | 18 | 35 | 17 | 200 | MT3         | 4      |
| TWR-18+0.02   | 18 | 35 | 17 | 200 | MT3         | 4      |
| TWR-19+0.01   | 19 | 35 | 18 | 200 | MT3         | 6      |
| TWR-19+0.02   | 19 | 35 | 18 | 200 | MT3         | 6      |
| TWR-20+0.005  | 20 | 35 | 19 | 200 | MT3         | 6      |
| TWR-20+0.01   | 20 | 35 | 19 | 200 | MT3         | 6      |
| TWR-20+0.02   | 20 | 35 | 19 | 200 | MT3         | 6      |
| TWR-20+0.025  | 20 | 35 | 19 | 200 | MT3         | 6      |
| TWR-20+0.05   | 20 | 35 | 19 | 200 | MT3         | 6      |
| TWR-22+0.01   | 22 | 35 | 20 | 200 | MT3         | 6      |
| TWR-22+0.02   | 22 | 35 | 20 | 200 | MT3         | 6      |



# TWR 莫式斜柄螺旋鉋刀 Morse taper reamers



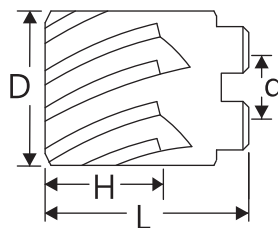
- Morse Taper Shank
- Accuracy D +0.005  
+0.01  
+0.02  
+0.025  
+0.05

| Ordering code    | D  | H  | d  | L   | Morse Taper | Flutes |
|------------------|----|----|----|-----|-------------|--------|
| TWR-23+0.02      | 23 | 35 | 21 | 200 | MT3         | 6      |
| TWR-24+0.01      | 24 | 35 | 22 | 200 | MT3         | 6      |
| TWR-24+0.02      | 24 | 35 | 22 | 200 | MT3         | 6      |
| TWR-25+0.005     | 25 | 35 | 22 | 200 | MT3         | 6      |
| TWR-25+0.01      | 25 | 35 | 22 | 200 | MT3         | 6      |
| TWR-25+0.02      | 25 | 35 | 22 | 200 | MT3         | 6      |
| TWR-25+0.025     | 25 | 35 | 22 | 200 | MT3         | 6      |
| TWR-25+0.05      | 25 | 35 | 22 | 200 | MT3         | 6      |
| TWR-26+0.02      | 26 | 35 | 23 | 200 | MT3         | 6      |
| TWR-28+0.01-MT3  | 28 | 35 | 25 | 230 | MT3         | 6      |
| TWR-28+0.01-MT4  | 28 | 35 | 25 | 230 | MT4         | 6      |
| TWR-28+0.02-MT3  | 28 | 35 | 25 | 230 | MT3         | 6      |
| TWR-28+0.02-MT4  | 28 | 35 | 25 | 230 | MT4         | 6      |
| TWR-30+0.05      | 30 | 35 | 26 | 230 | MT4         | 6      |
| TWR-30+0.01      | 30 | 35 | 26 | 230 | MT4         | 6      |
| TWR-30+0.02      | 30 | 35 | 26 | 230 | MT4         | 6      |
| TWR-30+0.025     | 30 | 35 | 26 | 230 | MT4         | 6      |
| TWR-30+0.05      | 30 | 35 | 26 | 230 | MT4         | 6      |
| TWR-32+0.01      | 32 | 35 | 28 | 230 | MT4         | 6      |
| TWR-32+0.02      | 32 | 35 | 28 | 230 | MT4         | 6      |
| TWR-35+0.01      | 35 | 35 | 31 | 230 | MT4         | 6      |
| TWR-35+0.02      | 35 | 35 | 31 | 230 | MT4         | 6      |
| TWR-35+0.025     | 35 | 35 | 31 | 230 | MT4         | 6      |
| TWR-35+0.05      | 35 | 35 | 31 | 230 | MT4         | 6      |
| TWR-40+0.01      | 40 | 40 | 34 | 260 | MT4         | 6      |
| TWR-40+0.02      | 40 | 40 | 34 | 260 | MT4         | 6      |
| TWR-40+0.025     | 40 | 40 | 34 | 260 | MT4         | 6      |
| TWR-42+0.02      | 42 | 42 | 36 | 260 | MT4         | 6      |
| TWR-45+0.01      | 45 | 45 | 38 | 260 | MT4         | 6      |
| TWR-45+0.02      | 45 | 45 | 38 | 260 | MT4         | 6      |
| TWR-45+0.025     | 45 | 45 | 38 | 260 | MT4         | 6      |
| TWR-50+0.02      | 50 | 50 | 44 | 300 | MT4         | 6      |
| TWR-50+0.02-MT5  | 50 | 50 | 44 | 300 | MT5         | 6      |
| TWR-50+0.025     | 50 | 50 | 44 | 300 | MT4         | 6      |
| TWR-50+0.025-MT5 | 50 | 50 | 44 | 300 | MT5         | 6      |





# TWR 莫式斜柄螺旋鉋刀 Morse taper reamers

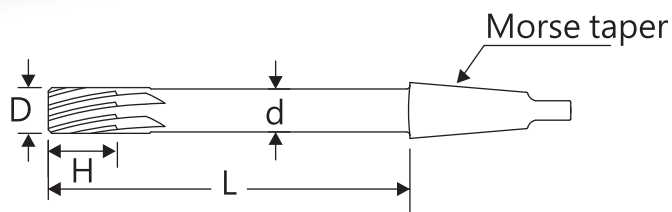


- Morse Taper Shank
- Accuracy D +0.02

| Ordering code    | D  | H  | d    | L   | Morse Taper | Flutes |
|------------------|----|----|------|-----|-------------|--------|
| TWR-55+0.02      | 55 | 50 | 46   | 300 | MT4         | 8      |
| TWR-55+0.02-MT5  | 55 | 50 | 46   | 300 | MT5         | 8      |
| TWR-60+0.02-25.4 | 60 | 50 | 25.4 | 74  | -           | 8      |
| TWR-60+0.02      | 60 | 50 | 50   | 300 | MT4         | 8      |
| TWR-60+0.02-MT5  | 60 | 50 | 50   | 300 | MT5         | 8      |
| TWR-65+0.02-25.4 | 65 | 50 | 25.4 | 67  | -           | 8      |
| TWR-65+0.02      | 65 | 50 | 55   | 300 | MT4         | 8      |
| TWR-65+0.02-MT5  | 65 | 50 | 55   | 300 | MT5         | 8      |
| TWR-70+0.02-25.4 | 70 | 50 | 25.4 | 74  | -           | 10     |
| TWR-70+0.02      | 70 | 50 | 60   | 300 | MT5         | 10     |
| TWR-75+0.02-25.4 | 75 | 50 | 25.4 | 74  | -           | 10     |
| TWR-80+0.02-25.4 | 80 | 50 | 25.4 | 65  | -           | 10     |



# TWRI 莫式斜柄螺旋鉋刀 Morse taper reamers



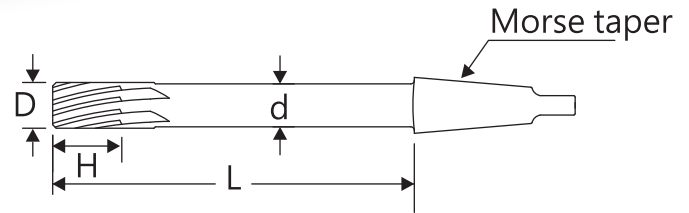
- Morse Taper Shank
- Accuracy D +0.01  
+0.02  
+0.025  
+0.05

| Ordering code    | D      | H  | d  | L   | Morse Taper | Flutes |
|------------------|--------|----|----|-----|-------------|--------|
| TWRI-1/2+0.02    | 12.7   | 20 | 12 | 155 | MT2         | 4      |
| TWRI-1/2+0.025   | 12.7   | 20 | 12 | 155 | MT2         | 4      |
| TWRI-1/2+0.05    | 12.7   | 20 | 12 | 155 | MT2         | 4      |
| TWRI-5/8+0.02    | 15.875 | 25 | 15 | 155 | MT3         | 4      |
| TWRI-5/8+0.025   | 15.875 | 25 | 15 | 155 | MT3         | 4      |
| TWRI-3/4+0.01    | 19.05  | 35 | 18 | 205 | MT3         | 6      |
| TWRI-3/4+0.02    | 19.05  | 35 | 18 | 205 | MT3         | 6      |
| TWRI-3/4+0.025   | 19.05  | 35 | 18 | 205 | MT3         | 6      |
| TWRI-7/8+0.01    | 22.225 | 35 | 20 | 205 | MT3         | 6      |
| TWRI-7/8+0.02    | 22.225 | 35 | 20 | 205 | MT3         | 6      |
| TWRI-7/8+0.025   | 22.225 | 35 | 20 | 205 | MT3         | 6      |
| TWRI-1"+0.01     | 25.4   | 35 | 22 | 205 | MT3         | 6      |
| TWRI-1"+0.02     | 25.4   | 35 | 22 | 205 | MT3         | 6      |
| TWRI-1"+0.025    | 25.4   | 35 | 22 | 205 | MT3         | 6      |
| TWRI-1"1/8+0.01  | 28.575 | 35 | 24 | 230 | MT3         | 6      |
| TWRI-1"1/8+0.02  | 28.575 | 35 | 24 | 230 | MT3         | 6      |
| TWRI-1"1/4+0.02  | 31.75  | 35 | 26 | 230 | MT4         | 6      |
| TWRI-1"3/8+0.01  | 34.925 | 35 | 30 | 230 | MT4         | 6      |
| TWRI-1"3/8+0.02  | 34.925 | 35 | 30 | 230 | MT4         | 6      |
| TWRI-1"3/8+0.025 | 34.925 | 35 | 30 | 230 | MT4         | 6      |
| TWRI-1"1/2+0.02  | 38.1   | 35 | 33 | 260 | MT4         | 6      |
| TWRI-1"1/2+0.025 | 38.1   | 35 | 33 | 260 | MT4         | 6      |
| TWRI-1"5/8+0.01  | 41.275 | 40 | 35 | 260 | MT4         | 6      |
| TWRI-1"5/8+0.02  | 41.275 | 40 | 35 | 260 | MT4         | 6      |
| TWRI-1"5/8+0.025 | 41.275 | 40 | 35 | 260 | MT4         | 6      |
| TWRI-1"3/4+0.02  | 44.45  | 40 | 38 | 260 | MT4         | 6      |
| TWRI-1"3/4+0.025 | 44.45  | 40 | 38 | 260 | MT4         | 6      |
| TWRI-1"7/8+0.02  | 47.625 | 40 | 40 | 260 | MT4         | 6      |
| TWRI-1"7/8+0.025 | 47.625 | 40 | 40 | 260 | MT4         | 6      |
| TWRI-2"+0.02     | 50.8   | 50 | 44 | 300 | MT4         | 6      |



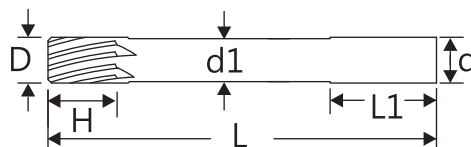
# TWRL 加長莫式斜柄螺旋鉋刀

Morse taper reamers  
(extra long)



- Morse Taper Shank
- Accuracy D +0.01  
+0.02  
+0.05

| Ordering code    | D  | H  | d  | L   | Morse Taper | Flutes |
|------------------|----|----|----|-----|-------------|--------|
| TWRL-16-200+0.01 | 16 | 25 | 15 | 200 | MT3         | 4      |
| TWRL-16-200+0.02 | 16 | 25 | 15 | 200 | MT3         | 4      |
| TWRL-16-200+0.05 | 16 | 25 | 15 | 200 | MT3         | 4      |
| TWRL-16-250+0.02 | 16 | 25 | 15 | 250 | MT3         | 4      |
| TWRL-16-250+0.05 | 16 | 25 | 15 | 250 | MT3         | 4      |
| TWRL-16-300+0.02 | 16 | 25 | 15 | 300 | MT3         | 4      |
| TWRL-16-400+0.02 | 16 | 25 | 15 | 400 | MT3         | 4      |
| TWRL-20-250+0.02 | 20 | 35 | 19 | 250 | MT3         | 6      |
| TWRL-20-300+0.02 | 20 | 35 | 19 | 300 | MT3         | 6      |
| TWRL-20-350+0.02 | 20 | 35 | 19 | 350 | MT3         | 6      |
| TWRL-20-400+0.02 | 20 | 35 | 19 | 400 | MT3         | 6      |
| TWRL-25-250+0.02 | 25 | 35 | 22 | 250 | MT3         | 6      |
| TWRL-25-300+0.02 | 25 | 35 | 22 | 300 | MT3         | 6      |
| TWRL-25-350+0.02 | 25 | 35 | 22 | 350 | MT3         | 6      |
| TWRL-25-400+0.02 | 25 | 35 | 22 | 400 | MT3         | 6      |
| TWRL-30-300+0.02 | 30 | 35 | 26 | 300 | MT4         | 6      |
| TWRL-30-350+0.02 | 30 | 35 | 26 | 350 | MT4         | 6      |
| TWRL-30-400+0.02 | 30 | 35 | 26 | 400 | MT4         | 6      |
| TWRL-35-300+0.02 | 35 | 35 | 31 | 300 | MT4         | 6      |
| TWRL-35-350+0.02 | 35 | 35 | 31 | 350 | MT4         | 6      |
| TWRL-40-350+0.02 | 40 | 40 | 34 | 350 | MT4         | 6      |



- Straight Shank
- Accuracy D + 0.01
- Metric Specifications, 2.5 - 5.4 mm are made by solid carbide

| Ordering code | D   | H  | d1   | L1 | d   | L   | Flutes |
|---------------|-----|----|------|----|-----|-----|--------|
| TWRS-02.5     | 2.5 | 20 | 2.4  | 35 | 2.5 | 105 | 4      |
| TWRS-02.6     | 2.6 | 20 | 2.4  | 35 | 2.5 | 105 | 4      |
| TWRS-02.7     | 2.7 | 20 | 2.5  | 35 | 3   | 105 | 4      |
| TWRS-02.8     | 2.8 | 20 | 2.6  | 35 | 3   | 105 | 4      |
| TWRS-02.9     | 2.9 | 20 | 2.7  | 35 | 3   | 105 | 4      |
| TWRS-03.0     | 3.0 | 20 | 2.9  | 35 | 3   | 105 | 4      |
| TWRS-03.1     | 3.1 | 20 | 2.9  | 35 | 3   | 105 | 4      |
| TWRS-03.2     | 3.2 | 20 | 2.95 | 35 | 3   | 105 | 4      |
| TWRS-03.3     | 3.3 | 20 | 3.1  | 35 | 3   | 105 | 4      |
| TWRS-03.4     | 3.4 | 20 | 3.2  | 35 | 3   | 105 | 4      |
| TWRS-03.5     | 3.5 | 20 | 3.3  | 35 | 3   | 105 | 4      |
| TWRS-03.6     | 3.6 | 20 | 3.4  | 35 | 3.5 | 105 | 4      |
| TWRS-03.7     | 3.7 | 20 | 3.5  | 35 | 3.5 | 105 | 4      |
| TWRS-03.8     | 3.8 | 20 | 3.6  | 35 | 4   | 105 | 4      |
| TWRS-03.9     | 3.9 | 20 | 3.7  | 35 | 4   | 105 | 4      |
| TWRS-04.0     | 4.0 | 20 | 3.8  | 35 | 4   | 105 | 4      |
| TWRS-04.1     | 4.1 | 20 | 3.9  | 35 | 4   | 105 | 4      |
| TWRS-04.2     | 4.2 | 20 | 4.0  | 35 | 4   | 105 | 4      |
| TWRS-04.3     | 4.3 | 20 | 4.1  | 35 | 4   | 105 | 4      |
| TWRS-04.4     | 4.4 | 20 | 4.2  | 35 | 4   | 105 | 4      |
| TWRS-04.5     | 4.5 | 20 | 4.3  | 35 | 4.5 | 105 | 4      |
| TWRS-04.6     | 4.6 | 20 | 4.4  | 35 | 4.5 | 105 | 4      |
| TWRS-04.7     | 4.7 | 20 | 4.5  | 35 | 4.5 | 105 | 4      |
| TWRS-04.8     | 4.8 | 20 | 4.6  | 40 | 5   | 105 | 4      |
| TWRS-04.9     | 4.9 | 20 | 4.7  | 40 | 5   | 105 | 4      |
| TWRS-05.0     | 5.0 | 30 | 4.8  | 40 | 5   | 130 | 4      |

| Ordering code | D   | H  | d1  | L1 | d | L   | Flutes |
|---------------|-----|----|-----|----|---|-----|--------|
| TWRS-05.1     | 5.1 | 30 | 4.9 | 40 | 5 | 130 | 4      |
| TWRS-05.2     | 5.2 | 30 | 5.0 | 40 | 5 | 130 | 4      |
| TWRS-05.3     | 5.3 | 30 | 5.1 | 40 | 5 | 130 | 4      |
| TWRS-05.4     | 5.4 | 30 | 5.2 | 40 | 5 | 130 | 4      |
| TWRS-05.5     | 5.5 | 30 | 5.3 | 40 | 6 | 130 | 4      |
| TWRS-05.6     | 5.6 | 30 | 5.4 | 40 | 6 | 130 | 4      |
| TWRS-05.7     | 5.7 | 30 | 5.5 | 40 | 6 | 130 | 4      |
| TWRS-05.8     | 5.8 | 30 | 5.6 | 40 | 6 | 130 | 4      |
| TWRS-05.9     | 5.9 | 30 | 5.7 | 40 | 6 | 130 | 4      |
| TWRS-06.0     | 6.0 | 30 | 5.8 | 40 | 6 | 130 | 4      |
| TWRS-06.1     | 6.1 | 30 | 5.9 | 40 | 6 | 130 | 4      |
| TWRS-06.2     | 6.2 | 30 | 6.0 | 40 | 6 | 130 | 4      |
| TWRS-06.3     | 6.3 | 30 | 6.1 | 40 | 6 | 130 | 4      |
| TWRS-06.4     | 6.4 | 30 | 6.2 | 40 | 6 | 130 | 4      |
| TWRS-06.5     | 6.5 | 30 | 6.3 | 40 | 6 | 130 | 4      |
| TWRS-06.6     | 6.6 | 30 | 6.4 | 40 | 8 | 130 | 4      |
| TWRS-06.7     | 6.7 | 30 | 6.5 | 40 | 8 | 130 | 4      |
| TWRS-06.8     | 6.8 | 30 | 6.6 | 40 | 8 | 130 | 4      |
| TWRS-06.9     | 6.9 | 30 | 6.7 | 40 | 8 | 130 | 6      |
| TWRS-07.0     | 7.0 | 30 | 6.8 | 40 | 8 | 130 | 6      |
| TWRS-07.1     | 7.1 | 30 | 6.9 | 40 | 8 | 130 | 6      |
| TWRS-07.2     | 7.2 | 30 | 7.0 | 40 | 8 | 130 | 6      |
| TWRS-07.3     | 7.3 | 30 | 7.1 | 40 | 8 | 130 | 6      |
| TWRS-07.4     | 7.4 | 30 | 7.2 | 40 | 8 | 130 | 6      |
| TWRS-07.5     | 7.5 | 30 | 7.3 | 40 | 8 | 130 | 6      |
| TWRS-07.6     | 7.6 | 30 | 7.4 | 40 | 8 | 130 | 6      |



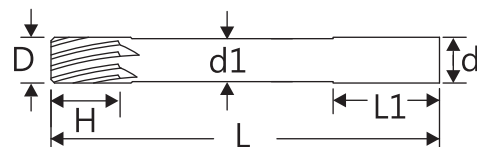
| Ordering code | D    | H  | d1  | L1 | d  | L   | Flutes |
|---------------|------|----|-----|----|----|-----|--------|
| TWRS-07.7     | 7.7  | 30 | 7.5 | 40 | 8  | 130 | 6      |
| TWRS-07.8     | 7.8  | 30 | 7.6 | 40 | 8  | 130 | 6      |
| TWRS-07.9     | 7.9  | 30 | 7.7 | 40 | 8  | 130 | 6      |
| TWRS-08.0     | 8.0  | 30 | 7.8 | 40 | 8  | 130 | 6      |
| TWRS-08.1     | 8.1  | 30 | 7.9 | 40 | 8  | 130 | 6      |
| TWRS-08.2     | 8.2  | 30 | 8.0 | 40 | 8  | 130 | 6      |
| TWRS-08.3     | 8.3  | 30 | 8.1 | 40 | 8  | 130 | 6      |
| TWRS-08.4     | 8.4  | 30 | 8.2 | 40 | 8  | 130 | 6      |
| TWRS-08.5     | 8.5  | 30 | 8.3 | 40 | 8  | 130 | 6      |
| TWRS-08.6     | 8.6  | 30 | 8.4 | 40 | 10 | 130 | 6      |
| TWRS-08.7     | 8.7  | 30 | 8.5 | 40 | 10 | 130 | 6      |
| TWRS-08.8     | 8.8  | 30 | 8.6 | 40 | 10 | 130 | 6      |
| TWRS-08.9     | 8.9  | 30 | 8.7 | 40 | 10 | 130 | 6      |
| TWRS-09.0     | 9.0  | 30 | 8.8 | 40 | 10 | 150 | 6      |
| TWRS-09.1     | 9.1  | 30 | 8.9 | 40 | 10 | 150 | 6      |
| TWRS-09.2     | 9.2  | 30 | 9.0 | 40 | 10 | 150 | 6      |
| TWRS-09.3     | 9.3  | 30 | 9.0 | 40 | 10 | 150 | 6      |
| TWRS-09.4     | 9.4  | 30 | 9.1 | 40 | 10 | 150 | 6      |
| TWRS-09.5     | 9.5  | 30 | 9.2 | 40 | 10 | 150 | 6      |
| TWRS-09.6     | 9.6  | 30 | 9.3 | 40 | 10 | 150 | 6      |
| TWRS-09.7     | 9.7  | 30 | 9.4 | 40 | 10 | 150 | 6      |
| TWRS-09.8     | 9.8  | 30 | 9.5 | 40 | 10 | 150 | 6      |
| TWRS-09.9     | 9.9  | 30 | 9.6 | 40 | 10 | 150 | 6      |
| TWRS-10.0     | 10   | 30 | 9.8 | 40 | 10 | 150 | 6      |
| TWRS-10.1     | 10.1 | 30 | 9.9 | 40 | 10 | 150 | 6      |
| TWRS-10.2     | 10.2 | 30 | 9.9 | 40 | 10 | 150 | 6      |

| Ordering code | D    | H  | d1   | L1 | d  | L   | Flutes |
|---------------|------|----|------|----|----|-----|--------|
| TWRS-10.3     | 10.3 | 30 | 9.9  | 40 | 10 | 150 | 6      |
| TWRS-10.4     | 10.4 | 30 | 9.9  | 40 | 10 | 150 | 6      |
| TWRS-10.5     | 10.5 | 30 | 10   | 40 | 10 | 150 | 6      |
| TWRS-10.6     | 10.6 | 30 | 10.3 | 40 | 12 | 150 | 6      |
| TWRS-10.7     | 10.7 | 30 | 10.4 | 40 | 12 | 150 | 6      |
| TWRS-10.8     | 10.8 | 30 | 10.5 | 40 | 12 | 150 | 6      |
| TWRS-10.9     | 10.9 | 30 | 10.6 | 40 | 12 | 150 | 6      |
| TWRS-11.0     | 11.0 | 30 | 10.8 | 40 | 12 | 150 | 6      |
| TWRS-11.1     | 11.1 | 30 | 10.8 | 40 | 12 | 150 | 6      |
| TWRS-11.2     | 11.2 | 30 | 10.9 | 40 | 12 | 150 | 6      |
| TWRS-11.3     | 11.3 | 30 | 11.0 | 40 | 12 | 150 | 6      |
| TWRS-11.4     | 11.4 | 30 | 11.2 | 40 | 12 | 150 | 6      |
| TWRS-11.5     | 11.5 | 30 | 11.3 | 40 | 12 | 150 | 6      |
| TWRS-11.6     | 11.6 | 30 | 11.3 | 40 | 12 | 150 | 6      |
| TWRS-11.7     | 11.7 | 30 | 11.4 | 40 | 12 | 150 | 6      |
| TWRS-11.8     | 11.8 | 30 | 11.4 | 40 | 12 | 150 | 6      |
| TWRS-11.9     | 11.9 | 30 | 11.5 | 40 | 12 | 150 | 6      |
| TWRS-12.0     | 12.0 | 30 | 11.7 | 40 | 12 | 150 | 6      |
| TWRS-12.1     | 12.1 | 30 | 11.7 | 40 | 12 | 150 | 6      |
| TWRS-12.2     | 12.2 | 30 | 11.8 | 40 | 12 | 150 | 6      |
| TWRS-12.3     | 12.3 | 30 | 11.8 | 40 | 12 | 150 | 6      |
| TWRS-12.4     | 12.4 | 30 | 12.0 | 40 | 12 | 150 | 6      |
| TWRS-12.5     | 12.5 | 30 | 12.0 | 40 | 12 | 150 | 6      |
| TWRS-12.6     | 12.6 | 30 | 12.2 | 40 | 12 | 150 | 6      |
| TWRS-12.8     | 12.8 | 30 | 12.4 | 40 | 12 | 150 | 6      |
| TWRS-12.9     | 12.9 | 30 | 12.4 | 40 | 12 | 150 | 6      |
| TWRS-13.0     | 13.0 | 30 | 12.4 | 40 | 12 | 150 | 6      |



## TWRSI 直柄螺旋鉋刀

Straight reamers



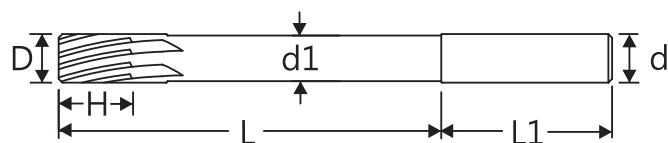
- Straight Shank
- Accuracy D + 0.01
- Metric Specifications, 1/8" 3/16" are made by solid carbide

| Ordering code | D     | H  | d1   | L1 | d  | L   | Flutes |
|---------------|-------|----|------|----|----|-----|--------|
| TWRSI-1/8     | 3.175 | 20 | 3    | 35 | 3  | 105 | 4      |
| TWRSI-3/16    | 4.763 | 20 | 4.4  | 35 | 4  | 105 | 4      |
| TWRSI-1/4     | 6.35  | 30 | 6    | 40 | 6  | 130 | 4      |
| TWRSI-5/16    | 7.938 | 30 | 7.5  | 40 | 8  | 130 | 6      |
| TWRSI-3/8     | 9.525 | 30 | 9.3  | 40 | 10 | 150 | 6      |
| TWRSI-1/2     | 12.7  | 30 | 12.2 | 40 | 12 | 150 | 6      |



## TWRM 直柄螺旋鉋刀

Straight reamers

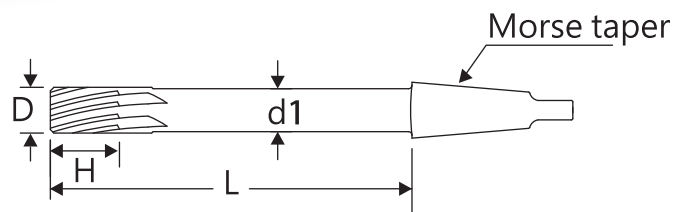


- Straight Shank
- Accuracy D + 0.01

| Ordering code | D  | H  | d1 | L1 | d  | L   | Flutes |
|---------------|----|----|----|----|----|-----|--------|
| TWRM-13       | 13 | 20 | 12 | 60 | 16 | 150 | 4      |
| TWRM-14       | 14 | 20 | 13 | 60 | 16 | 150 | 4      |
| TWRM-15       | 15 | 25 | 14 | 60 | 16 | 150 | 4      |
| TWRM-16       | 16 | 25 | 15 | 60 | 16 | 150 | 4      |
| TWRM-20       | 20 | 35 | 19 | 60 | 20 | 200 | 6      |
| TWRM-25       | 25 | 35 | 20 | 60 | 20 | 200 | 6      |



## TWRA 莫式斜柄斜刃鉸刀 Morse taper reamers



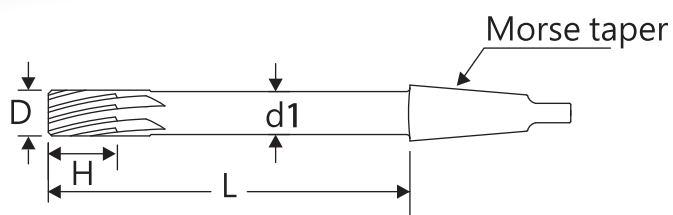
- Morse Taper Shank
- Accuracy D + 0.003 - 0.007

| Ordering code | D    | H  | d1   | L   | Morse taper | Flutes |
|---------------|------|----|------|-----|-------------|--------|
| TWRA-12.0     | 12   | 35 | 11   | 105 | MT2         | 6      |
| TWRA-12.5     | 12.5 | 35 | 11.5 | 105 | MT2         | 6      |
| TWRA-13.0     | 13   | 35 | 12   | 105 | MT2         | 6      |
| TWRA-13.5     | 13.5 | 35 | 12.5 | 110 | MT2         | 6      |
| TWRA-14.0     | 14   | 35 | 13   | 110 | MT2         | 6      |
| TWRA-14.5     | 14.5 | 35 | 13.5 | 125 | MT2         | 6      |
| TWRA-15.0     | 15   | 35 | 14   | 125 | MT2         | 6      |
| TWRA-15.5     | 15.5 | 35 | 14.5 | 130 | MT2         | 6      |

| Ordering code | D    | H  | d1   | L   | Morse taper | Flutes |
|---------------|------|----|------|-----|-------------|--------|
| TWRA-16.0     | 16   | 35 | 15   | 130 | MT2         | 6      |
| TWRA-16.5     | 16.5 | 35 | 15.5 | 135 | MT2         | 6      |
| TWRA-17.0     | 17   | 35 | 16   | 135 | MT2         | 6      |
| TWRA-17.5     | 17.5 | 35 | 16.5 | 140 | MT2         | 6      |
| TWRA-18.0     | 18   | 35 | 17   | 140 | MT2         | 6      |
| TWRA-18.5     | 18.5 | 35 | 17.5 | 145 | MT2         | 6      |
| TWRA-19.0     | 19   | 35 | 18   | 145 | MT2         | 6      |
| TWRA-19.5     | 19.5 | 35 | 18.5 | 150 | MT2         | 6      |
| TWRA-20.0     | 20   | 35 | 19   | 150 | MT2         | 6      |



## TWRAX 莫式斜柄斜刃鉸刀 Morse taper reamers



- Morse Taper Shank
- ASC 300 - PVD coated
- Accuracy D + 0.003 - 0.007

| Ordering code | D    | H  | d1   | L   | Morse taper | Flutes |
|---------------|------|----|------|-----|-------------|--------|
| TWRAX-12.0    | 12   | 35 | 11   | 105 | MT2         | 6      |
| TWRAX-12.5    | 12.5 | 35 | 11.5 | 105 | MT2         | 6      |
| TWRAX-13.0    | 13   | 35 | 12   | 105 | MT2         | 6      |
| TWRAX-13.5    | 13.5 | 35 | 12.5 | 110 | MT2         | 6      |
| TWRAX-14.0    | 14   | 35 | 13   | 110 | MT2         | 6      |
| TWRAX-14.5    | 14.5 | 35 | 13.5 | 125 | MT2         | 6      |
| TWRAX-15.0    | 15   | 35 | 14   | 125 | MT2         | 6      |
| TWRAX-15.5    | 15.5 | 35 | 14.5 | 130 | MT2         | 6      |

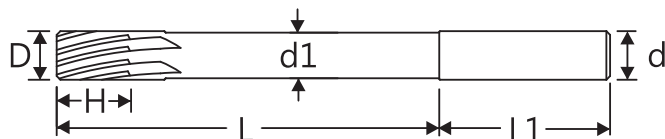
| Ordering code | D    | H  | d1   | L   | Morse taper | Flutes |
|---------------|------|----|------|-----|-------------|--------|
| TWRAX-16.0    | 16   | 35 | 15   | 130 | MT2         | 6      |
| TWRAX-16.5    | 16.5 | 35 | 15.5 | 135 | MT2         | 6      |
| TWRAX-17.0    | 17   | 35 | 16   | 135 | MT2         | 6      |
| TWRAX-17.5    | 17.5 | 35 | 16.5 | 140 | MT2         | 6      |
| TWRAX-18.0    | 18   | 35 | 17   | 140 | MT2         | 6      |
| TWRAX-18.5    | 18.5 | 35 | 17.5 | 145 | MT2         | 6      |
| TWRAX-19.0    | 19   | 35 | 18   | 145 | MT2         | 6      |
| TWRAX-19.5    | 19.5 | 35 | 18.5 | 150 | MT2         | 6      |
| TWRAX-20.0    | 20   | 35 | 19   | 150 | MT2         | 6      |





## TWRMA 直柄斜刃鉸刀

Straight reamers



- Straight Shank
- Accuracy D + 0.003 - 0.007

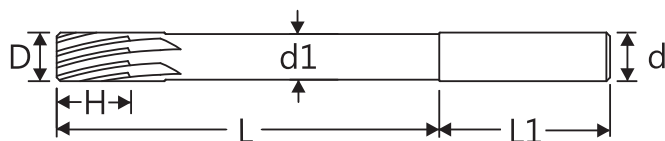
| Ordering code | D    | H  | d1   | L   | L1 | Flutes |
|---------------|------|----|------|-----|----|--------|
| TWRMA-12.0    | 12   | 35 | 11   | 105 | 50 | 6      |
| TWRMA-12.5    | 12.5 | 35 | 11.5 | 105 | 50 | 6      |
| TWRMA-13.0    | 13   | 35 | 12   | 105 | 50 | 6      |
| TWRMA-13.5    | 13.5 | 35 | 12.5 | 110 | 50 | 6      |
| TWRMA-14.0    | 14   | 35 | 13   | 110 | 50 | 6      |
| TWRMA-14.5    | 14.5 | 35 | 13.5 | 125 | 50 | 6      |
| TWRMA-15.0    | 15   | 35 | 14   | 125 | 50 | 6      |
| TWRMA-15.5    | 15.5 | 35 | 14.5 | 130 | 50 | 6      |

| Ordering code | D    | H  | d1   | L   | L1 | Flutes |
|---------------|------|----|------|-----|----|--------|
| TWRMA-16.0    | 16   | 35 | 15   | 130 | 50 | 6      |
| TWRMA-16.5    | 16.5 | 35 | 15.5 | 135 | 50 | 6      |
| TWRMA-17.0    | 17   | 35 | 16   | 135 | 50 | 6      |
| TWRMA-17.5    | 17.5 | 35 | 16.5 | 140 | 50 | 6      |
| TWRMA-18.0    | 18   | 35 | 17   | 140 | 50 | 6      |
| TWRMA-18.5    | 18.5 | 35 | 17.5 | 145 | 50 | 6      |
| TWRMA-19.0    | 19   | 35 | 18   | 145 | 50 | 6      |
| TWRMA-19.5    | 19.5 | 35 | 18.5 | 150 | 50 | 6      |
| TWRMA-20.0    | 20   | 35 | 19   | 150 | 50 | 6      |



## TWRMAX 直柄斜刃鉸刀

Straight reamers



- ASC300 - PVD coated
- Accuracy D + 0.003 - 0.007

| Ordering code | D    | H  | d1   | L   | L1 | Flutes |
|---------------|------|----|------|-----|----|--------|
| TWRMAX-12.0   | 12   | 35 | 11   | 105 | 50 | 6      |
| TWRMAX-12.5   | 12.5 | 35 | 11.5 | 105 | 50 | 6      |
| TWRMAX-13.0   | 13   | 35 | 12   | 105 | 50 | 6      |
| TWRMAX-13.5   | 13.5 | 35 | 12.5 | 110 | 50 | 6      |
| TWRMAX-14.0   | 14   | 35 | 13   | 110 | 50 | 6      |
| TWRMAX-14.5   | 14.5 | 35 | 13.5 | 125 | 50 | 6      |
| TWRMAX-15.0   | 15   | 35 | 14   | 125 | 50 | 6      |
| TWRMAX-15.5   | 15.5 | 35 | 14.5 | 130 | 50 | 6      |

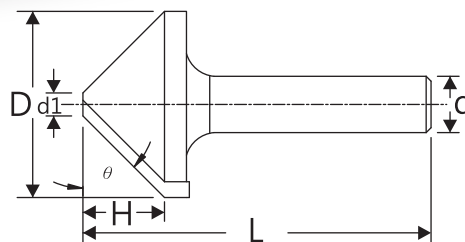
| Ordering code | D    | H  | d1   | L   | L1 | Flutes |
|---------------|------|----|------|-----|----|--------|
| TWRMAX-16.0   | 16   | 35 | 15   | 130 | 50 | 6      |
| TWRMAX-16.5   | 16.5 | 35 | 15.5 | 135 | 50 | 6      |
| TWRMAX-17.0   | 17   | 35 | 16   | 135 | 50 | 6      |
| TWRMAX-17.5   | 17.5 | 35 | 16.5 | 140 | 50 | 6      |
| TWRMAX-18.0   | 18   | 35 | 17   | 140 | 50 | 6      |
| TWRMAX-18.5   | 18.5 | 35 | 17.5 | 145 | 50 | 6      |
| TWRMAX-19.0   | 19   | 35 | 18   | 145 | 50 | 6      |
| TWRMAX-19.5   | 19.5 | 35 | 18.5 | 150 | 50 | 6      |
| TWRMAX-20.0   | 20   | 35 | 19   | 150 | 50 | 6      |





## TWA1 單刃內孔倒角刀

Hole chamfering cutters

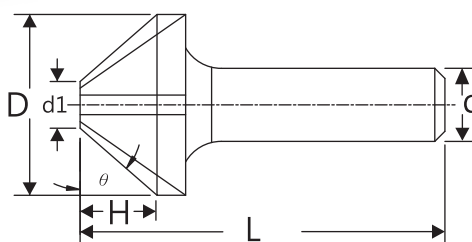


| Ordering code | D  | d1  | d  | H  | L  | $\theta$ | Flutes |
|---------------|----|-----|----|----|----|----------|--------|
| TWA1-12       | 12 | 3   | 8  | 5  | 60 | 45°      | 1      |
| TWA1-16       | 16 | 3.5 | 10 | 7  | 65 |          |        |
| TWA1-20       | 20 | 3.5 | 10 | 9  | 73 |          |        |
| TWA1-25       | 25 | 5   | 10 | 12 | 80 |          |        |
| TWA1-31       | 31 | 5   | 12 | 15 | 82 |          |        |
| TWA1-40       | 40 | 6   | 12 | 19 | 85 |          |        |
| TWA1-50       | 50 | 6   | 12 | 24 | 85 |          |        |



## TWA3 三刃內孔倒角刀

Hole chamfering cutters

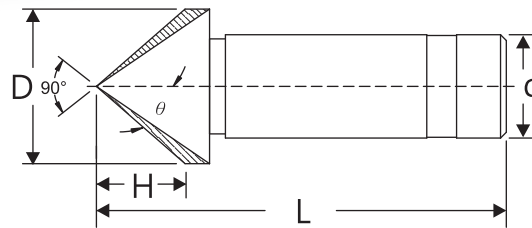


| Ordering code | D    | d1  | d  | H   | L  | $\theta$ | Flutes |
|---------------|------|-----|----|-----|----|----------|--------|
| TWA3-12.4     | 12.4 | 4.5 | 8  | 4   | 56 | 45°      | 3      |
| TWA3-16.5     | 16.5 | 5   | 10 | 5.5 | 60 |          |        |
| TWA3-20.5     | 20.5 | 6   | 10 | 7   | 63 |          |        |
| TWA3-25       | 25   | 6.5 | 10 | 9   | 67 |          |        |
| TWA3-31       | 31   | 7.5 | 12 | 12  | 71 |          |        |
| TWA3-35       | 35   | 7.5 | 12 | 14  | 73 |          |        |
| TWA3-40       | 40   | 8   | 12 | 16  | 77 |          |        |
| TWA3-50       | 50   | 9   | 12 | 20  | 80 |          |        |



# TWA45 45°倒角銑刀

Chamfering cutters

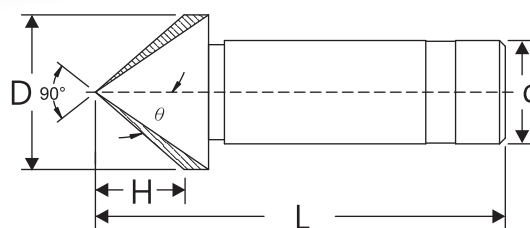


| Ordering code | D  | d  | H  | L   | Flutes | Grade | θ   |
|---------------|----|----|----|-----|--------|-------|-----|
| TWA45-20-P    | 20 | 16 | 10 | 90  | 2      | P     | 45° |
| TWA45-20-K    | 20 | 16 | 10 | 90  | 2      | K     |     |
| TWA45-25-P    | 25 | 16 | 12 | 90  | 2      | P     |     |
| TWA45-25-K    | 25 | 16 | 12 | 90  | 2      | K     |     |
| TWA45-30-P    | 30 | 20 | 15 | 100 | 2      | P     |     |
| TWA45-30-K    | 30 | 20 | 15 | 100 | 2      | K     |     |
| TWA45-35-P    | 35 | 20 | 17 | 100 | 2      | P     |     |
| TWA45-35-K    | 35 | 20 | 17 | 100 | 2      | K     |     |
| TWA45-40-P    | 40 | 25 | 20 | 100 | 2      | P     |     |
| TWA45-40-K    | 40 | 25 | 20 | 100 | 2      | K     |     |
| TWA45-50-P    | 50 | 32 | 25 | 110 | 4      | P     |     |
| TWA45-50-K    | 50 | 32 | 25 | 110 | 4      | K     |     |
| TWA45-50-K-6T | 50 | 32 | 25 | 110 | 6      | K     |     |
| TWA45-60-P    | 60 | 32 | 30 | 120 | 4      | P     |     |
| TWA45-60-P-6T | 60 | 32 | 30 | 120 | 6      | P     |     |
| TWA45-60-K    | 60 | 32 | 30 | 120 | 4      | K     |     |
| TWA45-60-K-6T | 60 | 32 | 30 | 120 | 6      | K     |     |



## TWAB45 45°倒角銑刀

Chamfering cutters

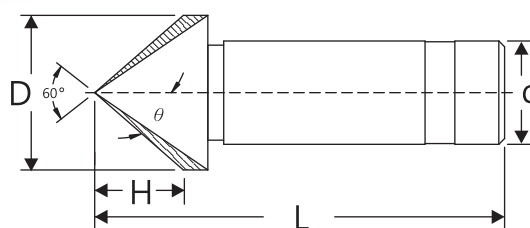
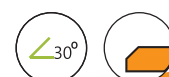


| Ordering code | D  | d  | H  | L   | Flutes | Grade | θ   |
|---------------|----|----|----|-----|--------|-------|-----|
| TWAB45-20     | 20 | 16 | 10 | 90  | 2      | CU    | 45° |
| TWAB45-25     | 25 | 16 | 12 | 95  | 2      |       |     |
| TWAB45-30     | 30 | 20 | 15 | 100 | 2      |       |     |
| TWAB45-35     | 35 | 20 | 17 | 100 | 2      |       |     |
| TWAB45-40     | 40 | 25 | 20 | 100 | 2      |       |     |
| TWAB45-45     | 45 | 25 | 25 | 105 | 2      |       |     |
| TWAB45-50     | 50 | 32 | 25 | 110 | 4      |       |     |
| TWAB45-50-6T  | 50 | 32 | 25 | 110 | 6      |       |     |
| TWAB45-60     | 60 | 32 | 30 | 120 | 6      |       |     |



## TWAB60 30°倒角銑刀

Chamfering cutters



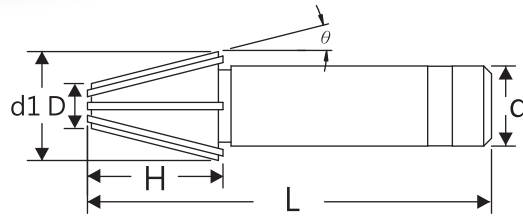
| Ordering code | D  | d  | H  | L   | Flutes | Grade | θ   |
|---------------|----|----|----|-----|--------|-------|-----|
| TWAB60-30     | 30 | 20 | 28 | 110 | 2      | CU    | 30° |
| TWAB60-50     | 50 | 32 | 46 | 125 | 4      |       |     |



## TWA 角度銑刀

K

## Chamfering cutters



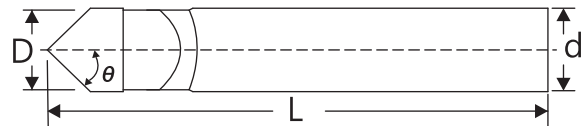
| Ordering code | D  | H  | d1   | d  | L   | Flutes | $\theta$ | Grade |
|---------------|----|----|------|----|-----|--------|----------|-------|
| TWA-03        | 20 | 60 | 26.3 | 20 | 160 | 4      | 3°       | K     |
| TWA-05        | 20 | 60 | 30.5 | 25 | 160 | 4      | 5°       |       |
| TWA-07        | 20 | 60 | 34.7 | 32 | 160 | 4      | 7°       |       |
| TWA-10        | 20 | 60 | 41.1 | 32 | 160 | 4      | 10°      |       |
| TWA-15        | 20 | 60 | 52.1 | 32 | 160 | 4      | 15°      |       |



## TWAD1 中心鑽

P K

## Center drill

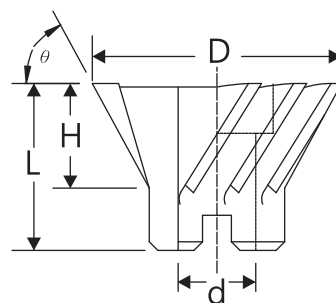
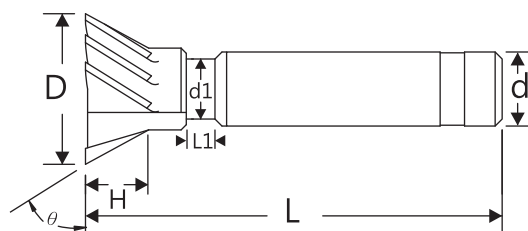
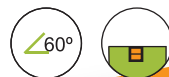


| Ordering code | D  | d  | L   | Flutes | $\theta$ |
|---------------|----|----|-----|--------|----------|
| TWAD1-10      | 10 | 10 | 160 | 1      | 45°      |
| TWAD1-12      | 12 | 12 | 180 |        |          |
| TWAD1-16      | 16 | 16 | 200 |        |          |
| TWAD1-20      | 20 | 20 | 240 |        |          |
| TWAD1-25      | 25 | 25 | 240 |        |          |



# TWD60 60° 鳩尾槽銑刀

Dove-tail milling cutters



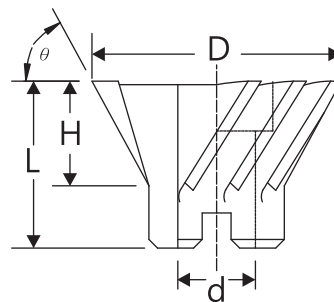
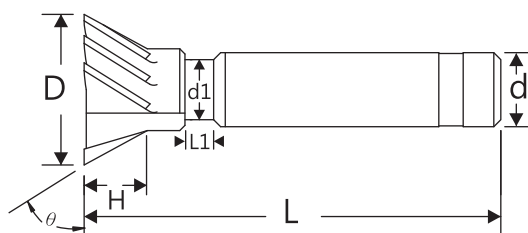
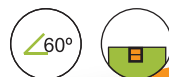
| Ordering code | D   | d     | d1 | H  | L1 | L   | Flutes | Grade | θ  |
|---------------|-----|-------|----|----|----|-----|--------|-------|----|
| TWD60-020-P   | 20  | 12    | 9  | 8  | 10 | 90  | 4      | P     | 60 |
| TWD60-020-K   | 20  | 12    | 9  | 8  | 10 | 90  | 4      | K     |    |
| TWD60-025-P   | 25  | 12    | 10 | 11 | 15 | 95  | 4      | P     |    |
| TWD60-025-K   | 25  | 12    | 10 | 11 | 15 | 95  | 4      | K     |    |
| TWD60-030-P   | 30  | 16    | 11 | 14 | 15 | 100 | 4      | P     |    |
| TWD60-030-K   | 30  | 16    | 11 | 14 | 15 | 100 | 4      | K     |    |
| TWD60-035-P   | 35  | 20    | 15 | 15 | 15 | 100 | 6      | P     |    |
| TWD60-035-K   | 35  | 20    | 15 | 15 | 15 | 100 | 6      | K     |    |
| TWD60-040-P   | 40  | 20    | 18 | 17 | 15 | 110 | 6      | P     |    |
| TWD60-040-K   | 40  | 20    | 18 | 17 | 15 | 110 | 6      | K     |    |
| TWD60-045-P   | 45  | 20    | 19 | 20 | 15 | 110 | 6      | P     |    |
| TWD60-045-K   | 45  | 20    | 19 | 20 | 15 | 110 | 6      | K     |    |
| TWD60-050-P   | 50  | 25    | 22 | 22 | 15 | 115 | 6      | P     |    |
| TWD60-050-K   | 50  | 25    | 22 | 22 | 15 | 115 | 6      | K     |    |
| TWD60-060-P   | 60  | 32    | 25 | 28 | 15 | 130 | 6      | P     |    |
| TWD60-060-K   | 60  | 32    | 25 | 28 | 15 | 130 | 6      | K     |    |
| TWD60-075-P   | 75  | 25.4  | -  | 28 | -  | 50  | 8      | P     |    |
| TWD60-075-K   | 75  | 25.4  | -  | 28 | -  | 50  | 8      | K     |    |
| TWD60-100-P   | 100 | 31.75 | -  | 40 | -  | 60  | 10     | P     |    |
| TWD60-100-K   | 100 | 31.75 | -  | 40 | -  | 60  | 10     | K     |    |



# TWDB60 60° 鳩尾槽銑刀

Dove-tail milling cutters

P M K

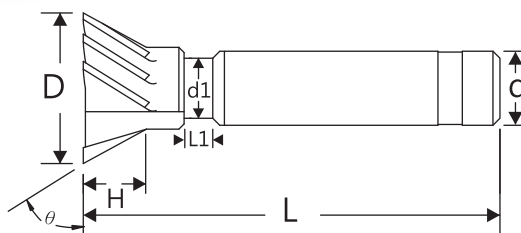
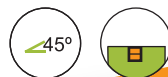


| Ordering code | D   | d     | d1 | H  | L1 | L   | Flutes | Grade | θ  |
|---------------|-----|-------|----|----|----|-----|--------|-------|----|
| TWDB60-016    | 16  | 12    | 7  | 7  | 8  | 90  | 4      | CU    | 60 |
| TWDB60-020    | 20  | 12    | 9  | 8  | 10 | 90  | 4      |       |    |
| TWDB60-025    | 25  | 12    | 10 | 11 | 15 | 95  | 4      |       |    |
| TWDB60-030    | 30  | 16    | 11 | 14 | 15 | 100 | 4      |       |    |
| TWDB60-032    | 32  | 16    | 12 | 15 | 15 | 100 | 4      |       |    |
| TWDB60-035    | 35  | 20    | 15 | 15 | 15 | 100 | 6      |       |    |
| TWDB60-040    | 40  | 20    | 18 | 17 | 15 | 110 | 6      |       |    |
| TWDB60-045    | 45  | 20    | 19 | 20 | 15 | 110 | 6      |       |    |
| TWDB60-050    | 50  | 25    | 22 | 22 | 15 | 115 | 6      |       |    |
| TWDB60-060    | 60  | 32    | 25 | 28 | 15 | 130 | 6      |       |    |
| TWDB60-075    | 75  | 25.4  | -  | 28 | -  | 50  | 8      |       |    |
| TWDB60-100    | 100 | 31.75 | -  | 40 | -  | 60  | 10     |       |    |



# TWDB45 45°鳩尾槽銑刀

Dove-tail milling cutters

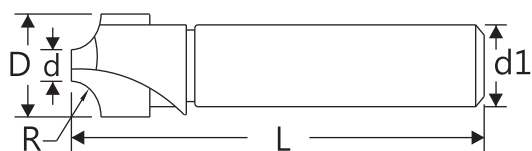


| Ordering code | D  | d  | d1 | H   | L1 | L   | Flutes | Grade | θ  |
|---------------|----|----|----|-----|----|-----|--------|-------|----|
| TWDB45-025    | 25 | 12 | 10 | 7.5 | 12 | 85  | 4      | CU    | 45 |
| TWDB45-030    | 30 | 16 | 11 | 8   | 12 | 100 | 4      |       |    |
| TWDB45-035    | 35 | 16 | 12 | 10  | 12 | 100 | 6      |       |    |
| TWDB45-040    | 40 | 16 | 13 | 12  | 12 | 100 | 6      |       |    |
| TWDB45-050    | 50 | 20 | 17 | 15  | 12 | 105 | 6      |       |    |
| TWDB45-060    | 60 | 25 | 21 | 18  | 12 | 110 | 6      |       |    |



# TWCR 外角R銑刀

Corner rounding cutters



| Ordering code | R   | d  | D  | d1 | L   | Flutes |
|---------------|-----|----|----|----|-----|--------|
| TWCR-02.0R    | 2.0 | 12 | 19 | 16 | 97  | 2      |
| TWCR-02.5R    | 2.5 | 12 | 19 | 16 | 97  | 2      |
| TWCR-03.0R    | 3.0 | 12 | 20 | 16 | 97  | 2      |
| TWCR-03.5R    | 3.5 | 12 | 21 | 16 | 97  | 2      |
| TWCR-04.0R    | 4.0 | 12 | 22 | 16 | 98  | 2      |
| TWCR-04.5R    | 4.5 | 12 | 23 | 16 | 98  | 2      |
| TWCR-05.0R    | 5.0 | 12 | 24 | 16 | 99  | 2      |
| TWCR-05.5R    | 5.5 | 12 | 25 | 16 | 99  | 2      |
| TWCR-06.0R    | 6.0 | 12 | 26 | 20 | 100 | 2      |
| TWCR-06.5R    | 6.5 | 12 | 27 | 20 | 100 | 2      |

| Ordering code | R    | d  | D  | d1 | L   | Flutes |
|---------------|------|----|----|----|-----|--------|
| TWCR-07.0R    | 7.0  | 12 | 28 | 20 | 100 | 2      |
| TWCR-07.5R    | 7.5  | 12 | 29 | 20 | 102 | 2      |
| TWCR-08.0R    | 8.0  | 12 | 30 | 20 | 102 | 2      |
| TWCR-10.0R    | 10   | 20 | 42 | 32 | 114 | 4      |
| TWCR-12.5R    | 12.5 | 20 | 47 | 32 | 116 | 4      |
| TWCR-15.0R    | 15   | 20 | 52 | 32 | 119 | 4      |
| TWCR-16.0R    | 16   | 20 | 54 | 32 | 120 | 4      |
| TWCR-20.0R    | 20   | 20 | 62 | 32 | 124 | 4      |
| TWCR-25.0R    | 25   | 20 | 72 | 32 | 129 | 4      |



# TWS 千鳥刃側銑刀

## Staggered tooth side cutters



| Ordering code | D   | H  | d    | Flutes | Grade | Tooth              |
|---------------|-----|----|------|--------|-------|--------------------|
| TWS-075-03    | 75  | 3  | 25.4 | 14     | P / K | Parallel<br>(直刃)   |
| TWS-075-04    | 75  | 4  | 25.4 | 14     | P / K |                    |
| TWS-075-05    | 75  | 5  | 25.4 | 14     | P / K |                    |
| TWS-075-06    | 75  | 6  | 25.4 | 14     | P / K |                    |
| TWS-075-07    | 75  | 7  | 25.4 | 14     | P / K |                    |
| TWS-075-08    | 75  | 8  | 25.4 | 14     | P / K | Staggered<br>(千鳥刃) |
| TWS-075-09    | 75  | 9  | 25.4 | 14     | P / K |                    |
| TWS-075-10    | 75  | 10 | 25.4 | 14     | P / K |                    |
| TWS-075-11    | 75  | 11 | 25.4 | 14     | P / K |                    |
| TWS-075-12    | 75  | 12 | 25.4 | 14     | P / K |                    |
| TWS-075-15    | 75  | 15 | 25.4 | 14     | P / K | Parallel<br>(直刃)   |
| TWS-100-03    | 100 | 3  | 25.4 | 16     | P / K |                    |
| TWS-100-04    | 100 | 4  | 25.4 | 16     | P / K |                    |
| TWS-100-05    | 100 | 5  | 25.4 | 16     | P / K |                    |
| TWS-100-06    | 100 | 6  | 25.4 | 16     | P / K |                    |
| TWS-100-07    | 100 | 7  | 25.4 | 16     | P / K | Staggered<br>(千鳥刃) |
| TWS-100-08    | 100 | 8  | 25.4 | 16     | P / K |                    |
| TWS-100-09    | 100 | 9  | 25.4 | 16     | P / K |                    |
| TWS-100-10    | 100 | 10 | 25.4 | 16     | P / K |                    |
| TWS-100-11    | 100 | 11 | 25.4 | 16     | P / K |                    |
| TWS-100-12    | 100 | 12 | 25.4 | 16     | P / K | Parallel<br>(直刃)   |
| TWS-100-15    | 100 | 15 | 25.4 | 16     | P / K |                    |
| TWS-125-03    | 125 | 3  | 25.4 | 18     | P / K |                    |
| TWS-125-04    | 125 | 4  | 25.4 | 18     | P / K |                    |
| TWS-125-05    | 125 | 5  | 25.4 | 18     | P / K |                    |
| TWS-125-06    | 125 | 6  | 25.4 | 18     | P / K | Parallel<br>(直刃)   |
| TWS-125-07    | 125 | 7  | 25.4 | 18     | P / K |                    |



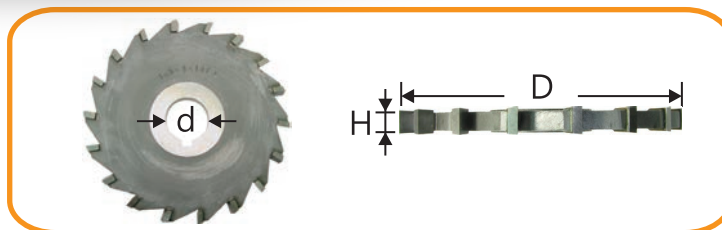


| Ordering code | D   | H  | d    | Flutes | Grade | Tooth              |
|---------------|-----|----|------|--------|-------|--------------------|
| TWS-125-08    | 125 | 8  | 25.4 | 18     | P / K | Staggered<br>(千鳥刃) |
| TWS-125-09    | 125 | 9  | 25.4 | 18     | P / K |                    |
| TWS-125-10    | 125 | 10 | 25.4 | 18     | P / K |                    |
| TWS-125-11    | 125 | 11 | 25.4 | 18     | P / K |                    |
| TWS-125-12    | 125 | 12 | 25.4 | 18     | P / K |                    |
| TWS-125-15    | 125 | 15 | 25.4 | 18     | P / K |                    |
| TWS-150-03    | 150 | 3  | 25.4 | 20     | P / K | Parallel<br>(直刃)   |
| TWS-150-04    | 150 | 4  | 25.4 | 20     | P / K |                    |
| TWS-150-05    | 150 | 5  | 25.4 | 20     | P / K |                    |
| TWS-150-06    | 150 | 6  | 25.4 | 20     | P / K |                    |
| TWS-150-07    | 150 | 7  | 25.4 | 20     | P / K |                    |
| TWS-150-08    | 150 | 8  | 25.4 | 20     | P / K | Staggered<br>(千鳥刃) |
| TWS-150-09    | 150 | 9  | 25.4 | 20     | P / K |                    |
| TWS-150-10    | 150 | 10 | 25.4 | 20     | P / K |                    |
| TWS-150-11    | 150 | 11 | 25.4 | 20     | P / K |                    |
| TWS-150-12    | 150 | 12 | 25.4 | 20     | P / K |                    |
| TWS-150-15    | 150 | 15 | 25.4 | 20     | P / K |                    |
| TWS-175-04    | 175 | 4  | 25.4 | 20     | P / K | Parallel<br>(直刃)   |
| TWS-175-05    | 175 | 5  | 25.4 | 20     | P / K |                    |
| TWS-175-06    | 175 | 6  | 25.4 | 20     | P / K |                    |
| TWS-175-07    | 175 | 7  | 25.4 | 20     | P / K |                    |
| TWS-175-08    | 175 | 8  | 25.4 | 20     | P / K | Staggered<br>(千鳥刃) |
| TWS-175-09    | 175 | 9  | 25.4 | 20     | P / K |                    |
| TWS-175-10    | 175 | 10 | 25.4 | 20     | P / K |                    |
| TWS-175-11    | 175 | 11 | 25.4 | 20     | P / K |                    |
| TWS-175-12    | 175 | 12 | 25.4 | 20     | P / K |                    |
| TWS-175-15    | 175 | 15 | 25.4 | 20     | P / K |                    |
| TWS-200-05    | 200 | 05 | 25.4 | 24     | P / K | Parallel<br>(直刃)   |
| TWS-200-06    | 200 | 06 | 25.4 | 24     | P / K | Staggered<br>(千鳥刃) |
| TWS-200-08    | 200 | 08 | 25.4 | 24     | P / K |                    |
| TWS-200-09    | 200 | 09 | 25.4 | 24     | P / K |                    |
| TWS-200-10    | 200 | 10 | 25.4 | 24     | P / K |                    |
| TWS-200-11    | 200 | 11 | 25.4 | 24     | P / K |                    |
| TWS-200-12    | 200 | 12 | 25.4 | 24     | P / K |                    |
| TWS-200-15    | 200 | 15 | 25.4 | 24     | P / K |                    |



TWSB 平刃側銑刀

Parallel tooth side cutters



| Ordering code | D   | H  | d    | Flutes | Grade | Tooth            |
|---------------|-----|----|------|--------|-------|------------------|
| TWSB-075-03   | 75  | 3  | 25.4 | 14     | CU    | Parallel<br>(直刃) |
| TWSB-075-04   | 75  | 4  | 25.4 | 14     |       |                  |
| TWSB-075-05   | 75  | 5  | 25.4 | 14     |       |                  |
| TWSB-075-06   | 75  | 6  | 25.4 | 14     |       |                  |
| TWSB-075-07   | 75  | 7  | 25.4 | 14     |       |                  |
| TWSB-075-08   | 75  | 8  | 25.4 | 14     |       |                  |
| TWSB-075-09   | 75  | 9  | 25.4 | 14     |       |                  |
| TWSB-075-10   | 75  | 10 | 25.4 | 14     |       |                  |
| TWSB-075-11   | 75  | 11 | 25.4 | 14     |       |                  |
| TWSB-075-12   | 75  | 12 | 25.4 | 14     |       |                  |
| TWSB-100-03   | 100 | 3  | 25.4 | 16     |       |                  |
| TWSB-100-04   | 100 | 4  | 25.4 | 16     |       |                  |
| TWSB-100-05   | 100 | 5  | 25.4 | 16     |       |                  |
| TWSB-100-06   | 100 | 6  | 25.4 | 16     |       |                  |
| TWSB-100-07   | 100 | 7  | 25.4 | 16     |       |                  |
| TWSB-100-08   | 100 | 8  | 25.4 | 16     |       |                  |
| TWSB-100-09   | 100 | 9  | 25.4 | 16     |       |                  |
| TWSB-100-10   | 100 | 10 | 25.4 | 16     |       |                  |
| TWSB-100-11   | 100 | 11 | 25.4 | 16     |       |                  |
| TWSB-100-12   | 100 | 12 | 25.4 | 16     |       |                  |
| TWSB-125-03   | 125 | 3  | 25.4 | 18     |       |                  |
| TWSB-125-04   | 125 | 4  | 25.4 | 18     |       |                  |
| TWSB-125-05   | 125 | 5  | 25.4 | 18     |       |                  |
| TWSB-125-06   | 125 | 6  | 25.4 | 18     |       |                  |
| TWSB-125-07   | 125 | 7  | 25.4 | 18     |       |                  |

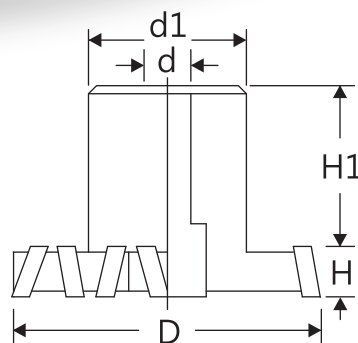


| Ordering code | D   | H  | d    | Flutes | Grade | Tooth            |
|---------------|-----|----|------|--------|-------|------------------|
| TWSB-125-08   | 125 | 8  | 25.4 | 18     | CU    | Parallel<br>(直刃) |
| TWSB-125-09   | 125 | 9  | 25.4 | 18     |       |                  |
| TWSB-125-10   | 125 | 10 | 25.4 | 18     |       |                  |
| TWSB-125-11   | 125 | 11 | 25.4 | 18     |       |                  |
| TWSB-125-12   | 125 | 12 | 25.4 | 18     |       |                  |
| TWSB-150-03   | 150 | 3  | 25.4 | 20     |       |                  |
| TWSB-150-04   | 150 | 4  | 25.4 | 20     |       |                  |
| TWSB-150-05   | 150 | 5  | 25.4 | 20     |       |                  |
| TWSB-150-06   | 150 | 6  | 25.4 | 20     |       |                  |
| TWSB-150-07   | 150 | 7  | 25.4 | 20     |       |                  |
| TWSB-150-08   | 150 | 8  | 25.4 | 20     |       |                  |
| TWSB-150-09   | 150 | 9  | 25.4 | 20     |       |                  |
| TWSB-150-10   | 150 | 10 | 25.4 | 20     |       |                  |
| TWSB-150-11   | 150 | 11 | 25.4 | 20     |       |                  |
| TWSB-150-12   | 150 | 12 | 25.4 | 20     |       |                  |
| TWSB-175-04   | 175 | 4  | 25.4 | 20     |       |                  |
| TWSB-175-05   | 175 | 5  | 25.4 | 20     |       |                  |
| TWSB-175-06   | 175 | 6  | 25.4 | 20     |       |                  |
| TWSB-175-07   | 175 | 7  | 25.4 | 20     |       |                  |
| TWSB-175-08   | 175 | 8  | 25.4 | 20     |       |                  |
| TWSB-175-10   | 175 | 10 | 25.4 | 20     |       |                  |
| TWSB-175-12   | 175 | 12 | 25.4 | 20     |       |                  |
| TWSB-200-05   | 200 | 5  | 25.4 | 24     |       |                  |
| TWSB-200-06   | 200 | 6  | 25.4 | 24     |       |                  |
| TWSB-200-08   | 200 | 8  | 25.4 | 24     |       |                  |
| TWSB-200-10   | 200 | 10 | 25.4 | 24     |       |                  |
| TWSB-200-12   | 200 | 12 | 25.4 | 24     |       |                  |



## TWSS 千鳥刃筒狀側銑刀

Staggered tooth side cutters

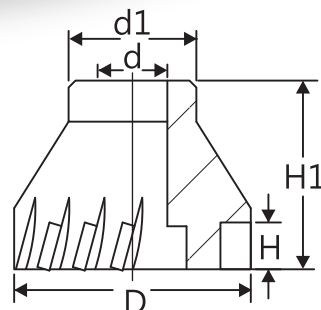


| Ordering code | D   | d     | H  | d1 | H1 | Flutes | Grade |
|---------------|-----|-------|----|----|----|--------|-------|
| TWSS-100      | 100 | 31.75 | 16 | 55 | 44 | 14     | K     |
| TWSS-125      | 125 | 31.75 | 18 | 60 | 42 | 16     |       |
| TWSS-150      | 150 | 31.75 | 20 | 70 | 40 | 18     |       |



## TWF 90° 平面銑刀

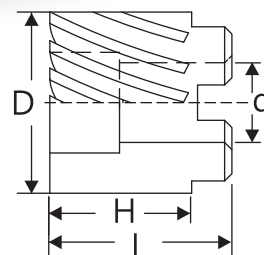
90° Face milling cutters



| Ordering code | D   | d     | H  | d1 | H1 | Flutes | Grade |
|---------------|-----|-------|----|----|----|--------|-------|
| TWF-075       | 75  | 25.4  | 15 | 46 | 55 | 8      | K     |
| TWF-100       | 100 | 31.75 | 15 | 60 | 55 | 10     |       |
| TWF-125       | 125 | 31.75 | 15 | 70 | 55 | 14     |       |
| TWF-150       | 150 | 50.8  | 15 | 80 | 55 | 16     |       |



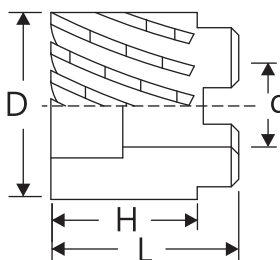
## TWESA 螺旋刃筒狀精修刀 Finishing shell end mills



| Ordering code        | D  | d     | H  | L  | Blade thickness | Flutes | Ordering code       | D  | d     | H   | L   | Blade thickness | Flutes |
|----------------------|----|-------|----|----|-----------------|--------|---------------------|----|-------|-----|-----|-----------------|--------|
| TWESA-600501.0-K-83  | 60 | 25.4  | 50 | 70 | 3.0-8.0         | 6      | TWESA-750501.2-K-83 | 75 | 31.75 | 50  | 70  | 3.0-8.0         | 8      |
| TWESA-600501.0-K-84  | 60 | 25.4  | 50 | 70 | 4.0-8.0         | 6      | TWESA-750501.2-K-84 | 75 | 31.75 | 50  | 70  | 4.0-8.0         | 8      |
| TWESA-600501.2-K-83  | 60 | 31.75 | 50 | 70 | 3.0-8.0         | 6      | TWESA-750701.2-K-83 | 75 | 31.75 | 70  | 90  | 3.0-8.0         | 8      |
| TWESA-600501.2-K-84  | 60 | 31.75 | 50 | 70 | 4.0-8.0         | 6      | TWESA-750701.2-K-84 | 75 | 31.75 | 70  | 90  | 4.0-8.0         | 8      |
| TWESA-600601.0-K-635 | 60 | 25.4  | 60 | 70 | 3.5-6.0         | 6      | TWESA-751001.2-K-83 | 75 | 31.75 | 100 | 120 | 3.0-8.0         | 8      |
| TWESA-600701.0-K-83  | 60 | 25.4  | 70 | 90 | 3.0-8.0         | 6      | TWESA-751004.2K-84  | 75 | 31.75 | 100 | 120 | 4.0-8.0         | 8      |
| TWESA-600801.0-K-635 | 60 | 25.4  | 80 | 90 | 3.5-6.0         | 6      |                     |    |       |     |     |                 |        |



## TWER1 螺旋刃筒狀粗銑刀 Roughing shell end mills



| Ordering code        | D  | d     | H   | L   | Blade thickness | Flutes |
|----------------------|----|-------|-----|-----|-----------------|--------|
| TWER1-600551.0-K-845 | 60 | 25.4  | 55  | 70  | 4.5-8.0         | 6      |
| TWER1-600551.2-K-845 | 60 | 31.75 | 55  | 70  | 4.5-8.0         | 6      |
| TWER1-600801.0-K-845 | 60 | 25.4  | 80  | 90  | 4.5-8.0         | 6      |
| TWER1-600801.2-K-845 | 60 | 31.75 | 80  | 90  | 4.5-8.0         | 6      |
| TWER1-750551.2-K-845 | 75 | 31.75 | 55  | 70  | 4.5-8.0         | 8      |
| TWER1-750801.2-K-845 | 75 | 31.75 | 80  | 90  | 4.5-8.0         | 8      |
| TWER1-751051.2-K-845 | 75 | 31.75 | 105 | 120 | 4.5-8.0         | 8      |
| TWER1-751501.2-K-845 | 75 | 31.75 | 150 | 165 | 4.5-8.0         | 8      |



TWC 沉頭銑刀

Counter sinking cutters

P M K

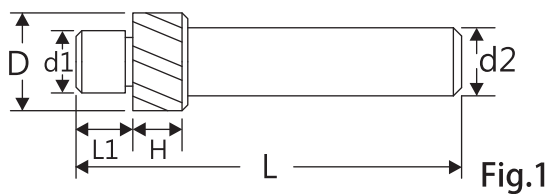
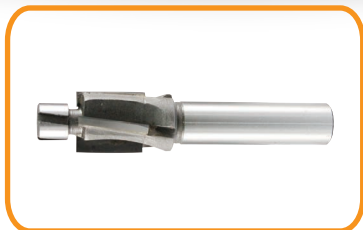


Fig.1

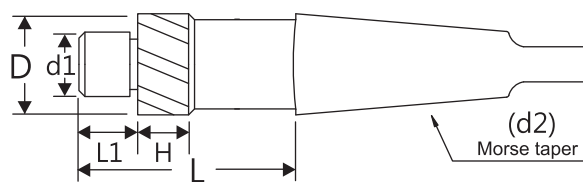


Fig.2

| Ordering code | D    | H  | d1   | L1   | d2  | L   | Flutes | Fig.No. |
|---------------|------|----|------|------|-----|-----|--------|---------|
| TWC-08        | 13.4 | 17 | 8.2  | 12.5 | 12  | 75  | 4      | 1       |
| TWC-10        | 16.9 | 17 | 10.3 | 12.5 | 12  | 75  | 4      | 1       |
| TWC-12        | 18.9 | 21 | 12.4 | 12.5 | 12  | 80  | 4      | 1       |
| TWC-16        | 21   | 15 | 15.9 | 15   | MT3 | 110 | 4      | 2       |
| TWC-20        | 26   | 15 | 19.9 | 15   | MT3 | 110 | 4      | 2       |
| TWC-25        | 31   | 15 | 24.9 | 15   | MT3 | 110 | 4      | 2       |
| TWC-30        | 36   | 15 | 29.9 | 15   | MT4 | 110 | 4      | 2       |
| TWC-35        | 41   | 15 | 34.9 | 15   | MT4 | 110 | 6      | 2       |
| TWC-40        | 46   | 15 | 39.9 | 15   | MT4 | 110 | 6      | 2       |
| TWC-45        | 51   | 15 | 44.9 | 15   | MT4 | 110 | 6      | 2       |
| TWC-50        | 56   | 15 | 49.9 | 15   | MT4 | 110 | 6      | 2       |
| TWC-55        | 61   | 15 | 54.9 | 15   | MT4 | 110 | 8      | 2       |
| TWC-60        | 66   | 15 | 59.9 | 15   | MT4 | 110 | 8      | 2       |
| TWCI-5/16"    | 14   | 12 | 8.2  | 14   | 12  | 70  | 4      | 1       |
| TWCI-3/8"     | 15.2 | 12 | 9.8  | 14   | 12  | 75  | 4      | 1       |
| TWCI-1/2"     | 20   | 20 | 13.2 | 14   | 12  | 85  | 4      | 1       |



## TWST 粗搪刀



## Rough boring cutters



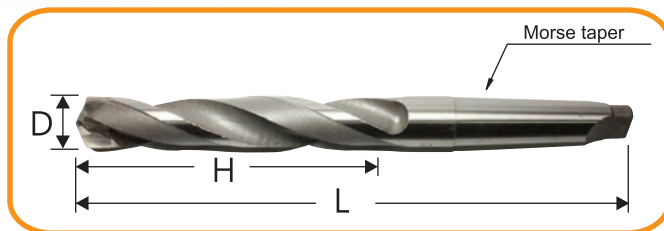
| Ordering code | D    | H  | L   | Mose Taper | Flutes |
|---------------|------|----|-----|------------|--------|
| TWST-15.7     | 15.7 | 11 | 150 | MT3        | 4      |
| TWST-19.7     | 19.7 | 11 | 200 | MT3        | 4      |
| TWST-24.7     | 24.7 | 11 | 200 | MT3        | 4      |
| TWST-29.7     | 29.7 | 11 | 230 | MT4        | 4      |



## TWDR 斜柄鑽頭



## Taper shank drills



| Ordering code | D    | H   | L   | Mose Taper |
|---------------|------|-----|-----|------------|
| TWDR-13.5     | 13.5 | 122 | 202 | MT2        |
| TWDR-14.0     | 14.0 | 125 | 205 | MT2        |
| TWDR-15.0     | 15.0 | 145 | 225 | MT2        |
| TWDR-15.5     | 15.5 | 148 | 228 | MT2        |
| TWDR-16.0     | 16.0 | 150 | 230 | MT2        |
| TWDR-17.0     | 17.0 | 155 | 235 | MT2        |
| TWDR-18.0     | 18.0 | 160 | 240 | MT2        |
| TWDR-19.0     | 19.0 | 165 | 245 | MT2        |

| Ordering code | D    | H   | L   | Mose Taper |
|---------------|------|-----|-----|------------|
| TWDR-20.0     | 20.0 | 170 | 250 | MT2        |
| TWDR-20.5     | 20.5 | 175 | 255 | MT2        |
| TWDR-21.0     | 21.0 | 175 | 255 | MT2        |
| TWDR-21.5     | 21.5 | 180 | 260 | MT2        |
| TWDR-22.0     | 22.0 | 180 | 260 | MT2        |
| TWDR-23.0     | 23.0 | 185 | 265 | MT2        |
| TWDR-24.0     | 24.0 | 185 | 285 | MT3        |
| TWDR-25.0     | 25.0 | 185 | 285 | MT3        |
| TWDR-25.5     | 25.5 | 185 | 285 | MT3        |