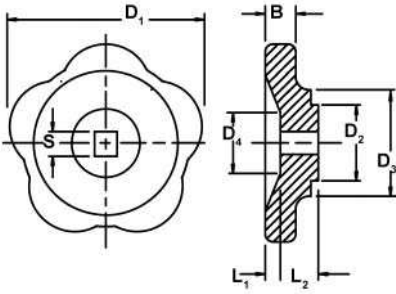


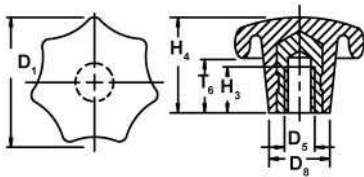
# Machine Handles

## HAND WHEEL (DIN 388) HARD PLASTIC



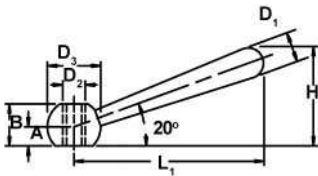
| PART NO. | D <sub>1</sub> | S (H11) | B  | D <sub>2</sub> | D <sub>3</sub> | D <sub>4</sub> | L <sub>1</sub> | L <sub>2</sub> |
|----------|----------------|---------|----|----------------|----------------|----------------|----------------|----------------|
| HW 6     | 50             | 6       | 10 | 22             | 30             | 22             | 12             | 6              |
| HW 7     | 63             | 7       | 11 | 22             | 34             | 24             | 12             | 8              |
| HW 8     | 80             | 8       | 12 | 28             | 38             | 28             | 14             | 8              |
| HW 9     | 100            | 9       | 14 | 28             | 42             | 30             | 14             | 11             |
| HW 10    | 125            | 10      | 16 | 34             | 48             | 32             | 16             | 12             |

## STAR KNOB (DIN 6336) HARD PLASTIC WITH STEEL INSERT



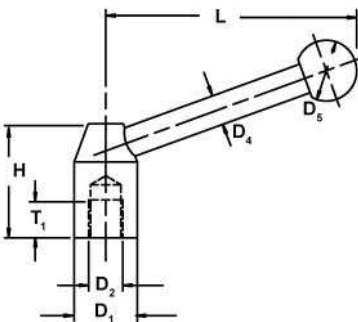
| PART NO.   | D <sub>1</sub> | D <sub>5</sub> | D <sub>8</sub> | H <sub>3</sub> | H <sub>4</sub> | T <sub>6</sub> |
|------------|----------------|----------------|----------------|----------------|----------------|----------------|
| HSK M4     | 20             | M 4            | 10             | 7              | 13             | 7.5            |
| HSK M5     | 25             | M 5            | 12             | 8              | 16             | 9.5            |
| HSK M6     | 32             | M 6            | 14             | 10             | 20             | 12             |
| HSK M8     | 40             | M 8            | 18             | 13             | 25             | 14             |
| HSK M10X50 | 50             | M 10           | 22             | 17             | 32             | 18             |
| HSK M10X63 | 63             | M 10           | 26             | 21             | 40             | 22             |
| HSK M12X63 | 63             | M 12           | 26             | 21             | 40             | 22             |
| HSK M12X80 | 80             | M 12           | 35             | 25             | 50             | 30             |

## CLAMPING LEVER (DIN 99) STEEL



| PART NO. | D <sub>1</sub> | D <sub>2</sub> | D <sub>3</sub> | L <sub>1</sub> | H    | A    | B    |
|----------|----------------|----------------|----------------|----------------|------|------|------|
| HCL M5   | 6              | M 5            | 10             | 38             | 19   | 3    | 7.5  |
| HCL M6   | 8              | M 6            | 12             | 48             | 24   | 4    | 9.5  |
| HCL M8   | 10             | M 8            | 16             | 60             | 30.5 | 5    | 12.5 |
| HCL M10  | 13             | M 10           | 20             | 76             | 38   | 6    | 15   |
| HCL M12  | 16             | M 12           | 25             | 95             | 47   | 7.5  | 19   |
| HCL M16  | 20             | M 16           | 32             | 119            | 59.5 | 10   | 25   |
| HCL M20  | 25             | M 20           | 40             | 152            | 75.7 | 12.5 | 31   |
| HCL M24  | 32             | M 24           | 50             | 190            | 97   | 18   | 41   |

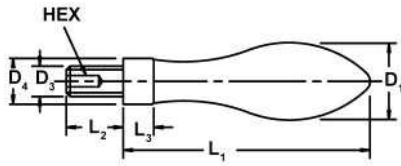
## OPERATING LEVER, STEEL



| PART NO.   | D <sub>1</sub> | D <sub>2</sub> | D <sub>4</sub> | D <sub>5</sub> | H  | L   | T <sub>1</sub> |
|------------|----------------|----------------|----------------|----------------|----|-----|----------------|
| HOL M8     | 20             | M 8            | 8              | 20             | 33 | 70  | 15             |
| HOL M10    | 22             | M 10           | 8              | 20             | 37 | 82  | 15             |
| HOL M12X25 | 25             | M 12           | 10             | 25             | 42 | 96  | 18             |
| HOL M12X28 | 28             | M 12           | 12             | 30             | 47 | 110 | 18             |
| HOL M16X32 | 32             | M 16           | 12             | 32             | 52 | 124 | 23             |
| HOL M16X36 | 36             | M 16           | 14             | 35             | 58 | 138 | 24             |
| HOL M20X40 | 40             | M 20           | 16             | 40             | 64 | 152 | 27             |
| HOL M20X45 | 45             | M 20           | 16             | 40             | 71 | 170 | 30             |

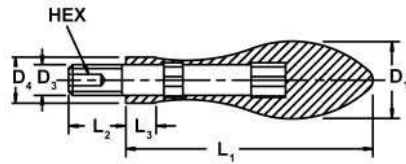
# Machine Handles

## SOLID BALL GRIP (DIN 39) STEEL



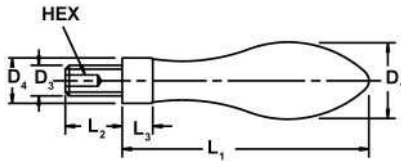
| PART NO.   | D <sub>1</sub> | D <sub>3</sub> | D <sub>4</sub> (H13) | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | HEX |
|------------|----------------|----------------|----------------------|----------------|----------------|----------------|-----|
| HSBG M4 S  | 10             | M 4            | 7                    | 32             | 7              | 4              | -   |
| HSBG M5 S  | 13             | M 5            | 8                    | 40             | 9              | 5              | -   |
| HSBG M6 S  | 16             | M 6            | 10                   | 50             | 11             | 7              | 3   |
| HSBG M8 S  | 20             | M 8            | 13                   | 64             | 13             | 8              | 4   |
| HSBG M10 S | 25             | M 10           | 16                   | 80             | 14             | 10             | 5   |
| HSBG M12 S | 32             | M 12           | 20                   | 100            | 21             | 13             | 6   |
| HSBG M16 S | 36             | M 16           | 22                   | 112            | 26             | 14             | 8   |

## SOLID BALL GRIP (DIN 39) HARD PLASTIC WITH STEEL INSERT



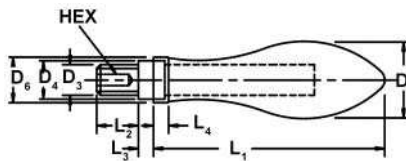
| PART NO.   | D <sub>1</sub> | D <sub>3</sub> | D <sub>4</sub> (H13) | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | HEX |
|------------|----------------|----------------|----------------------|----------------|----------------|----------------|-----|
| HSBG M8 P  | 20             | M 8            | 13                   | 64             | 13             | 8              | 4   |
| HSBG M10 P | 25             | M 10           | 16                   | 80             | 14             | 10             | 5   |
| HSBG M12 P | 32             | M 12           | 20                   | 100            | 21             | 13             | 6   |

## SOLID BALL GRIP (DIN 39) ALUMINUM



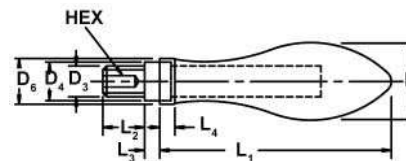
| PART NO.   | D <sub>1</sub> | D <sub>3</sub> | D <sub>4</sub> (H13) | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | HEX |
|------------|----------------|----------------|----------------------|----------------|----------------|----------------|-----|
| HSBG M6 A  | 16             | M 6            | 10                   | 50             | 13             | 7              | 3   |
| HSBG M8 A  | 20             | M 8            | 13                   | 64             | 16             | 8              | 4   |
| HSBG M10 A | 25             | M 10           | 16                   | 80             | 20             | 12             | 5   |
| HSBG M12 A | 32             | M 12           | 20                   | 100            | 25             | 16             | 6   |
| HSBG M16 A | 36             | M 16           | 22                   | 112            | 28             | 16             | 8   |

## ROTATING BALL GRIP (DIN 98) STEEL



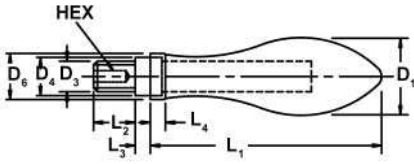
| PART NO.   | D <sub>1</sub> | D <sub>3</sub> | D <sub>4</sub> (H13) | D <sub>6</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | HEX |
|------------|----------------|----------------|----------------------|----------------|----------------|----------------|----------------|----------------|-----|
| HRBG M6 S  | 16             | M 6            | 10                   | 14             | 49             | 11             | 5.5            | 5              | 3   |
| HRBG M8 S  | 20             | M 8            | 13                   | 18             | 61             | 13             | 6              | 6              | 4   |
| HRBG M10 S | 25             | M 10           | 16                   | 21             | 75             | 14             | 8              | 6.5            | 5   |
| HRBG M12 S | 32             | M 12           | 20                   | 26             | 95             | 21             | 10.5           | 8              | 6   |
| HRBG M16 S | 36             | M 16           | 22                   | 29             | 106            | 26             | 11             | 9              | 8   |

## ROTATING BALL GRIP (DIN 98) HARD PLASTIC \ STEEL INSERT



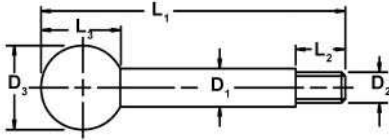
| PART NO.   | D <sub>1</sub> | D <sub>3</sub> | D <sub>4</sub> (H13) | D <sub>6</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | HEX |
|------------|----------------|----------------|----------------------|----------------|----------------|----------------|----------------|----------------|-----|
| HRBG M6 P  | 16             | M 6            | 10                   | 14             | 49             | 11             | 5.5            | 5              | 3   |
| HRBG M8 P  | 20             | M 8            | 13                   | 18             | 61             | 13             | 6              | 6              | 4   |
| HRBG M10 P | 25             | M 10           | 16                   | 21             | 75             | 14             | 8              | 6.5            | 5   |
| HRBG M12 P | 32             | M 12           | 20                   | 26             | 95             | 21             | 10.5           | 8              | 6   |
| HRBG M16 P | 36             | M 16           | 22                   | 29             | 106            | 26             | 11             | 9              | 8   |

# Machine Handles



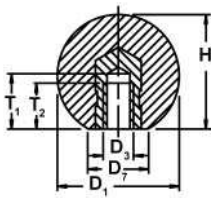
## ROTATING BALL GRIP (DIN 98) ALUMINUM

| PART NO.   | D <sub>1</sub> | D <sub>3</sub> | D <sub>4</sub> (H13) | D <sub>6</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | HEX |
|------------|----------------|----------------|----------------------|----------------|----------------|----------------|----------------|----------------|-----|
| HRBG M6 A  | 16             | M 6            | 10                   | 14             | 49             | 11             | 5.5            | 5              | 3   |
| HRBG M8 A  | 20             | M 8            | 13                   | 18             | 61             | 13             | 6              | 6              | 4   |
| HRBG M10 A | 25             | M 10           | 16                   | 21             | 75             | 14             | 8              | 6.5            | 5   |
| HRBG M12 A | 32             | M 12           | 20                   | 26             | 95             | 21             | 10.5           | 8              | 6   |
| HRBG M16 A | 36             | M 16           | 22                   | 29             | 106            | 26             | 11             | 9              | 8   |



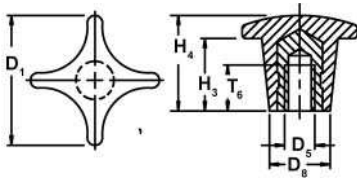
### BALL LEVER, STEEL WITH HARD PLASTIC KNOB

| PART NO. | D <sub>1</sub> | D <sub>2</sub> | D <sub>3</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> |
|----------|----------------|----------------|----------------|----------------|----------------|----------------|
| HBL M6   | 8              | M 6            | 20             | 89             | 9              | 18             |
| HBL M8   | 10             | M 8            | 25             | 111            | 11             | 22.5           |
| HBL M10  | 12             | M 10           | 32             | 139            | 14             | 29             |
| HBL M12  | 14             | M 12           | 35             | 176            | 16             | 32.5           |



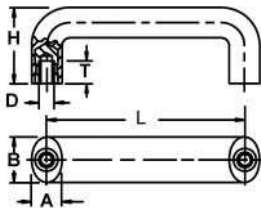
## BALL KNOB (DIN 319) HARD PLASTIC WITH STEEL INSERT

| PART NO. | D <sub>1</sub> | D <sub>3</sub> | H    | D <sub>7</sub> | T <sub>1</sub> | T <sub>2</sub> |
|----------|----------------|----------------|------|----------------|----------------|----------------|
| HBK M4   | 16             | M4             | 15   | 8              | 7.2            | 6              |
| HBK M5   | 20             | M5             | 18   | 12             | 9.1            | 7.5            |
| HBK M6   | 25             | M 6            | 22.5 | 15             | 11             | 9              |
| HBK M8   | 32             | M 8            | 29   | 18             | 14.5           | 12             |
| HBK M10  | 40             | M 10           | 37   | 22             | 18             | 15             |
| HBK M12  | 50             | M 12           | 46   | 27             | 21             | 18             |



## CROSS KNOB (DIN 6335) HARD PLASTIC WITH STEEL INSERT

| PART NO. | D <sub>1</sub> | D <sub>5</sub> | D <sub>8</sub> | H <sub>3</sub> | H <sub>4</sub> | T <sub>6</sub> |
|----------|----------------|----------------|----------------|----------------|----------------|----------------|
| HCK M4   | 20             | M4             | 10             | 6              | 13             | 7.5            |
| HCK M5   | 25             | M5             | 12             | 8              | 16             | 9.5            |
| HCK M6   | 32             | M 6            | 14             | 10             | 20             | 12             |
| HCK M8   | 40             | M 8            | 18             | 13             | 25             | 14             |
| HCK M10  | 50             | M 10           | 22             | 20             | 32             | 18             |
| HCK M12  | 63             | M 12           | 26             | 25             | 40             | 22             |
| HCK M16  | 80             | M 16           | 35             | 30             | 50             | 30             |



## BAR HANDLE, HARD PLASTIC WITH STEEL INSERT

| PART NO.   | L ±0.5 | A  | B  | D   | H  | T  |
|------------|--------|----|----|-----|----|----|
| HBH M6     | 86     | 17 | 26 | M 6 | 43 | 12 |
| HBH M8X117 | 117    | 20 | 30 | M 8 | 54 | 13 |
| HBH M8X179 | 179    | 20 | 30 | M 8 | 62 | 13 |