ISO 5211 Valve Actuator Mounting Flange Dimensions (F03 to F40)

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ISO 5211 mounting flange dimensions for part-turn valve to actuator attachment. Lists the bolt circle (PCD), fixing thread, number of holes and spigot register bore for every flange code from F03 to F40, with notes on the driving component and on selecting a mounting bracket or adaptor kit.

ISO 5211 mounting flange dimensions (F03 to F40)

ISO 5211 specifies the mechanical attachment between a part-turn valve and its actuator or gearbox. The mounting pad is identified by a flange code (Fxx) that fixes the bolt-circle diameter (PCD), the number and thread size of the fixing holes, and the spigot register bore that centres the actuator on the valve. Matching the flange code on both the valve and the actuator is what makes them interchangeable across manufacturers.

Flange code | Bolt circle PCD (mm) | Register bore Ø (mm) | Fixing thread | No. of holes |

F03 | 36 | 25 | M5 | 4 |

F04 | 42 | 30 | M5 | 4 |

F05 | 50 | 35 | M6 | 4 |

F07 | 70 | 55 | M8 | 4 |

F10 | 102 | 70 | M10 | 4 |

F12 | 125 | 85 | M12 | 4 |

F14 | 140 | 100 | M16 | 4 |

F16 | 165 | 130 | M20 | 4 |

F25 | 254 | 200 | M16 | 8 |

F30 | 298 | 230 | M20 | 8 |

F35 | 356 | 260 | M30 | 8 |

F40 | 406 | 300 | M36 | 8 |

Reading the table

Bolt circle PCD — the pitch circle diameter on which the fixing holes are arranged. The holes are equally spaced; F03 to F16 carry four holes, F25 to F40 carry eight.

Register bore Ø — the diameter of the spigot/pilot recess that locates the actuator concentrically on the valve mounting pad. It is not the bolt circle; the two are listed separately to avoid the common mix-up.

Fixing thread — the metric thread of the fixing holes in the mounting pad. Bolt grade and length are selected for the duty; ISO 5211 sizing assumes bolts in tension only.

Driving component — ISO 5211 also defines the female square, double-square or keyed driving connection (for example 9, 11, 14, 17, 22, 27, 36, 46 and 55 mm squares across the range). The exact drive size depends on the valve stem and actuator; confirm it against both components before ordering an adaptor.

Selecting a mounting bracket or adaptor kit

A mounting bracket (or adaptor kit) couples a valve flange code to a different actuator flange code, or raises the actuator clear of the valve. Specify the valve-side flange code, the actuator-side flange code, the drive coupling (square size or keyway) and the required stem-to-actuator height. Where a single actuator pad offers two patterns (for example F05/F07), the larger code is used for higher torque.

Dimensions are nominal and provided for identification and cross-reference. Confirm against the controlling ISO 5211 revision and the specific valve and actuator data sheets before manufacture or procurement.

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