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**NATIONAL STANDARD OF THE
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Replacing GB/T 10444-2016

Method of type establishment for mechanical seals

机械密封产品型号编制方法

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1 Scope

The document states that it defines the terms and definitions of mechanical seals and lays down the method of establishing the type designation of mechanical seal products.

It applies to mechanical seals of every kind.

3 Terms and definitions

The terms and definitions given in GB/T 5894 apply to the document. No term is defined in the document itself, although the scope announces that terms and definitions are established.

4 Method of type establishment for mechanical seal products

4.1.1 Contact type mechanical seals. The designation is built from four positions, of which the first three are given by Tables 1 to 3. The diagram that introduces the four positions is not reproduced in the extracted text.

Table 1 gives the meaning of the first position and the code used: single end face, unbalanced, code U; single end face, balanced, code B; double end face, both ends balanced, code BB; double end face, both ends unbalanced, code UU; double end face, unbalanced at the medium side and balanced at the atmosphere side, code UB; double end face, balanced at the medium side and unbalanced at the atmosphere side, code BU.

Table 2 gives the meaning of the second position, the class of machine on which the seal is used, and the code: mechanical seals for single-stage and multi-stage centrifugal pumps, vortex pumps, screw pumps, vacuum pumps and similar machines, code 1; for reactors, including steel stirred vessels and glass-lined stirred vessels, code 2; for internal

combustion engine cooling water pumps, including those of motor vehicles, tractors and diesel locomotives, code 3; for submersible motor pumps, including submersible oil, submersible brine and submersible water pumps, code 4; for refrigerating machines, including screw and centrifugal machines, code 5; for ships, including naval vessels, code 6; for fans, including ventilating fans and blowers, code 7; for turbo compressors, including centrifugal and axial flow compressors, code 8; for other machines, including washing machines, high temperature dyeing machines, gearboxes and reciprocating compressor crankcases, code 9.

Table 3 gives the meaning of the third position, the applicable service condition, and the code: ordinary duty, code 0; high temperature, including very high temperature, code 1; low temperature, code 2; high pressure, including very high pressure, code 3; vacuum, code 4; strong acid, code 5; strong alkali, code 6; solid impurities, code 7; high speed, including very high speed, code 8; other service conditions, code 9.

4.1.2 In the designation of a single end face, unbalanced mechanical seal, the form code U may be omitted.

4.1.3 Ordinary duty in Table 3 means the service conditions laid down in JB/T 4127.1; the service conditions with codes 1 to 8 are divided according to JB/T 4127.2, and other service conditions means conditions outside those with codes 0 to 8. Where several service conditions in the table apply at once, for example high temperature and high pressure, the code 1(3) is used; for high temperature and high speed, the code 1(8) is used.

4.1.4 The fourth position denotes a local structural difference and is expressed by the manufacturer in Arabic numerals according to the structural difference of the product; it shall not exceed two digits.

Example 1 of 4.1.4: a single end face, unbalanced mechanical seal for a pump in ordinary duty with structural difference code 4 is designated 104 or U104, where U means single end face, unbalanced and may be omitted, 1 means a mechanical seal for single-stage and multi-stage centrifugal pumps, vortex pumps, screw pumps, vacuum pumps and similar machines, 0 means ordinary duty and 4 is the structural difference code. Example 2: a single end face, unbalanced mechanical seal for an acid-resistant pump with structural difference code 3 is designated 153 or U153, where 5 means strong acid and 3 is the structural difference code. Example 3: a double end face mechanical seal balanced at both ends for a reactor in high pressure duty with structural difference code 8 is designated BB238, where BB means double end face balanced at both ends, 2 means a mechanical seal for reactors, 3 means high pressure and 8 is the structural difference code.

4.2.1 Dry gas seals. Table 4 gives the form feature and the code used, against three machine columns, namely reactor, compressor and pump. Single end face: no code for reactor, code A for compressor, no code for pump. Back-to-back double end face: code A for reactor, code B for compressor, code A1 for pump. Face-to-face double end face: code B

for reactor, code B for compressor, code A2 for pump. Face-to-back double end face, that is tandem: no code for reactor, code C for compressor, no code for pump. Tandem with an intermediate labyrinth seal: no code for reactor, code D for compressor, no code for pump. Mechanical seal plus dry gas seal: no code for reactor, no code for compressor, code B for pump. The worked example designates a back-to-back double end face dry gas seal for a pump as DGS/P-A1, where DGS means dry gas seal, P means pump and A1 means back-to-back double end face.

4.2.2 Upstream pumping liquid film mechanical seals. Table 5 gives the form feature and the code used: single end face, code S; back-to-back double end face, code B; face-to-face double end face, code D; face-to-back double end face, that is tandem, code T. The worked example designates a single end face upstream pumping liquid film mechanical seal for a compressor as LFS/C-S, where LFS means upstream pumping liquid film mechanical seal, C means compressor and S means single end face.