

MOL Group

**TECHNICAL SPECIFICATIONS
MECHANICAL**

List of booklets

MGS - M - REF – M – LI

Rev 1.00.00



1. Preface

The specifications MGS-M-REF-M of MOL Group „Technical specifications - Mechanical“ is an organic part of MOL Group specification system.

Legend: MGS - M/S – REF – M

„MGS”	MOL Group Standards.
“M”	MOL Hungary,
“S”	Slovnaft a.s.
“REF”	Refineries.
“M”	Mechanical.

The specifications MGS-M-REF-M contains the most important technical requirements specified for design, procurement and installation used for mechanical equipment in MOL Group refineries.

The purpose of standard MGS-M-REF-M is to specify and to complete all technical requirements which shall be in line with (laws, government regulations, requirements of directives of European Union, etc.) national and international standards with technical requirements accepted specific needs and MOL experiences in scope of preparation, purchasing, delivery, installation, commissioning, operation, maintenance of mechanical equipment installations in Refineries.

Target of standard MGS-M-REF-M is to ensure uniform solution for design and installations of mechanical equipment for new, reconstructed, modernized of integrated company technological objects or only parts of these objects, which are prepared and realized at different conditions and different time horizons.

2. Assignment of obligation



Standards of MGS-M-REF-M are obligatory for MOL Group employees, as well as for all external parties, which take part in any process of refining projects, preparation, engineering, delivery, installation, commissioning, operation, maintenance, repairing and installation of relevant technological equipment.

3. Substitution of previous standards

Standard MGS-M-REF-M Technical specifications - Mechanical substitutes all previous version of MOL or MOL GROUP standards (MGS-M or MS-M booklets and chapters).



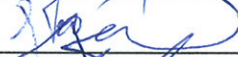

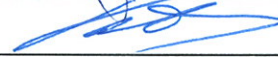
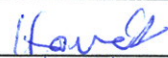




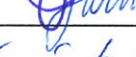
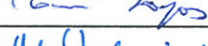
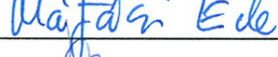

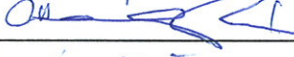
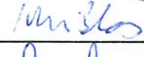

4. Signatory sheet

Team leaders

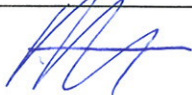

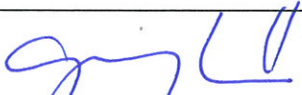
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Book Breakdown

Book Breakdown	Identifier	Rev.
Technical Specifications Mechanical		
List of booklets	MGS-M-REF-M-LI	1.00.00
Static equipment (book breakdown)	MGS-M-REF-M-1	1.00.00
General requirements	MGS-M-REF-M-1.0	1.00.00
Tanks, separators, columns and reactors	MGS-M-REF-M-1.1.1	1.00.00
Filters	MGS-M-REF-M-1.1.4	1.00.00
Fired heaters	MGS-M-REF-M-1.2.1	1.00.00
Shell and tube heat exchangers	MGS-M-REF-M-1.3.1	1.00.00
Plate heat exchangers	MGS-M-REF-M-1.3.2	1.00.00
Air coolers	MGS-M-REF-M-1.3.3	1.00.00
Atmospheric tanks	MGS-M-REF-M-1.4.1	1.00.00
Rotary machines (book breakdown)	MGS-M-REF-M-2	1.00.00
General requirements	MGS-M-REF-M-2.0	1.00.00
Centrifugal pumps	MGS-M-REF-M-2.1.1	1.00.00
Positive displacement pump	MGS-M-REF-M-2.1.2	1.00.00
Centrifugal compressors	MGS-M-REF-M-2.2.1	1.00.00
Reciprocating compressors	MGS-M-REF-M-2.2.2	1.00.00
Fans, blowers	MGS-M-REF-M-2.2.3	1.00.00
Rotary Type Screw Compressors	MGS-M-REF-M-2.2.4	1.00.00
Steam turbines	MGS-M-REF-M-2.3.1	1.00.00
Machine monitoring	MGS-M-REF-M-2.1.8	1.00.00
Piping system (book breakdown)	MGS-M-REF-M-3	1.00.00
General requirements	MGS-M-REF-M-3.0	1.00.00
Pipes, Elbows, Reducers, Tees and other fittings	MGS-M-REF-M-3.1.1	1.00.00
Flanges, Gaskets, Screws and bolts	MGS-M-REF-M-3.1.2	1.00.00
Gate valves, cocks, valves	MGS-M-REF-M-3.2.1	1.00.00
Safety valves and rupture disc	MGS-M-REF-M-3.2.2	1.00.00
Basic pipe classes	MGS-M-REF-M-3.3.1	1.00.00
Pipe supports	MGS-M-REF-M-3.3.2	1.00.00
Samplers	MGS-M-REF-M-3.3.3	1.00.00
Standard piping solutions	MGS-M-REF-M-3.3.4	1.00.00
Miscellaneous equipment (book breakdown)	MGS-M-REF-M-4	1.00.00
Cranes, hoisting machines	MGS-M-REF-M-4.1	1.00.00
Documentation of mechanical engineering (book breakdown)	MGS-M-REF-M-5	1.00.00
Requirements on content of project specification	MGS-M-REF-M-5.1	1.00.00
Inquiry and ordering documentation for rotating machines	MGS-M-REF-M-5.2.1	1.00.00
Data sheet for Centrifugal Pumps	MGS-M-REF-M-5.2.1.1	1.00.00

Data Sheet for Positive Displacement Pumps	MGS-M-REF-M-5.2.1.2	1.00.00
Data Sheet for Centrifugal Compressors	MGS-M-REF-M-5.2.1.3	1.00.00
Data Sheet for Reciprocating compressors	MGS-M-REF-M-5.2.1.4	1.00.00
Data Sheet for Fans, Blowers	MGS-M-REF-M-5.2.1.5	1.00.00
Data Sheet for Rotary type Screw Compressors	MGS-M-REF-M-5.2.1.6	1.00.00
Data Sheet for Steam turbines	MGS-M-REF-M-5.2.1.7	1.00.00
Inquiry and ordering documentation for static equipment	MGS-M-REF-M-5.2.2	1.00.00
Data Sheet for Tanks, separator, columns, reactors	MGS-M-REF-M-5.2.2.1	1.00.00
Data Sheet for Filters	MGS-M-REF-M-5.2.2.2	1.00.00
Data Sheet for Fired heaters and burners	MGS-M-REF-M-5.2.2.3	1.00.00
Data Sheet for Shell and tube heat exchangers	MGS-M-REF-M-5.2.2.4	1.00.00
Data Sheet for Plate heat exchangers	MGS-M-REF-M-5.2.2.5	1.00.00
Data Sheet for Air coolers	MGS-M-REF-M-5.2.2.6	1.00.00
Data Sheet for Atmospheric tanks	MGS-M-REF-M-5.2.2.7	1.00.00
Data sheet for Safety valves	MGS-M-REF-M-5.2.2.8	1.00.00
Data sheet for Rupture disk	MGS-M-REF-M-5.2.2.9	1.00.00
Data sheet for Valves	MGS-M-REF-M-5.2.2.10	1.00.00
Detailed documentation of mechanical engineering	MGS-M-REF-M-5.3.1	1.00.00
Detailed documentation of static equipment	MGS-M-REF-M-5.3.2	1.00.00
Requirement of Vendor documentation for rotating machines	MGS-M-REF-M-5.4.1	1.00.00
Requirement of Vendor documentation for static equipment	MGS-M-REF-M-5.4.2	1.00.00
Specifications for design and installation (book breakdown)	MGS-M-REF-M-6	1.00.00
Requirements of inspection and checking	MGS-M-REF-M-6.1	1.00.00
Products handover of category 1	MGS-M-REF-M-6.1.1	1.00.00
Products handover of category 2	MGS-M-REF-M-6.1.2	1.00.00
Products handover of category 3	MGS-M-REF-M-6.1.3	1.00.00
Hydrodynamic bearings	MGS-M-REF-M-6.1.3.1	1.00.00
Rotating main parts	MGS-M-REF-M-6.1.3.2	1.00.00
Driver's – electric motors	MGS-M-REF-M-6.1.3.3	1.00.00
Compressor's valves	MGS-M-REF-M-6.1.3.4	1.00.00
Equipment gaskets	MGS-M-REF-M-6.1.3.5	1.00.00
Bolts and nuts above size M45	MGS-M-REF-M-6.1.3.6	1.00.00
Safety valves and rupture disks	MGS-M-REF-M-6.1.3.7	1.00.00
Compensators	MGS-M-REF-M-6.1.3.8	1.00.00
Furnace piping	MGS-M-REF-M-6.1.3.9	1.00.00
Demisters	MGS-M-REF-M-6.1.3.10	1.00.00
Reactor, column internals and filter elements	MGS-M-REF-M-6.1.3.11	1.00.00
Special valves (>DN250 or >PN40)	MGS-M-REF-M-6.1.3.12	1.00.00
Special piping elements	MGS-M-REF-M-6.1.3.13	1.00.00
Products handover of category 4	MGS-M-REF-M-6.1.4	1.00.00
Tanks, separators, filters, columns, reactors	MGS-M-REF-M-6.1.4.1	1.00.00
Fired heaters	MGS-M-REF-M-6.1.4.2	1.00.00
Tube bundle	MGS-M-REF-M-6.1.4.3	1.00.00
Shell and tube heat exchangers	MGS-M-REF-M-6.1.4.4	1.00.00
Air coolers	MGS-M-REF-M-6.1.4.5	1.00.00

Atmospheric tanks (above ground)	MGS-M-REF-M-6.1.4.6	1.00.00
Centrifugal pumps-API610, EN, ISO	MGS-M-REF-M-6.1.4.7	1.00.00
Positive Displacement pumps	MGS-M-REF-M-6.1.4.8	1.00.00
Centrifugal compressor	MGS-M-REF-M-6.1.4.9	1.00.00
Reciprocating compressor	MGS-M-REF-M-6.1.4.10	1.00.00
Fans and blowers	MGS-M-REF-M-6.1.4.11	1.00.00
Rotary type positive displacement compressor	MGS-M-REF-M-6.1.4.12	1.00.00
Steam turbine	MGS-M-REF-M-6.1.4.13	1.00.00
Complete piping system	MGS-M-REF-M-6.1.4.14	1.00.00
Special valves DN>250, T>250	MGS-M-REF-M-6.1.4.15	1.00.00
Piping specialities (FCC stand pipe, etc)	MGS-M-REF-M-6.1.4.16	1.00.00
Complete unit	MGS-M-REF-M-6.1.4.17	1.00.00
Surface protection technology- coating systems	MGS-M-REF-M-6.2	1.00.00
External heat insulation	MGS-M-REF-M-6.3	1.00.00
Steam tracing for equipment and piping	MGS-M-REF-M-6.4	1.00.00
Pressure test and de-pressurising plan	MGS-M-REF-M-6.5	1.00.00
Requirements of handling and maintenance	MGS-M-REF-M-6.6	1.00.00