



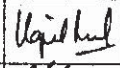




दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक		TG60456		
		PRODUCT STANDARD		पृष्ठ 2 का 1		
		TURBOGENERATOR ENGINEERING		Page 1 of 2		
समय सीमा INVENTORY NO.	SUPERSEDES को अधिकतम करना है।	EMPTY HYDROGEN CYLINDER				
		1.0 SCOPE This specification covers the design, manufacture, testing and supply of EMPTY HYDROGEN CYLINDER As per the requirements specified herein.				
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.	स्वतंत्रता एवं गोपनीय इस प्रवेश में कोई सूचना नहीं है कि इस दस्तावेज़ को संपत्ति है इसका प्रयोग एवं प्रसारण के बिना ही इस दस्तावेज़ को किसी भी प्रकार प्रयोग में लाया जा सकता है।	2.0 STANDERD APPLICABLE Latest addition of IS: 3224 and IS:7285.				
		3.0 DIMENSIONS a. Outside diameter =232 mm. b. Cylinder wall thickness =5.4 mm.(Min) c. Overall length =1445 mm				
		4.0 DESIGN The top end should be necked down to 2" dia. And screwed internally to dia 1" standard taper 1 in 8, 14 TPI to IS: 3224. The bottom of cylinder shall be concave.				
		5.0 FITTINGS The Gas cylinder should be complete with the following fittings/accessories. a. neck collar b. protection cap. c. outlet valve to IS:3224				
		6.0 CAPACITY a. Water capacity =46.7 Liters b. Volume of Gas =7 M ³ (app)				
हस्ताक्षर एवं दिनांक SIGN & DATE	TSX PSC Member QAX सहमत विभाग AGREED DEPTT.	KISHAN LAL L. CHAND D. KUMAR नाम NAME	12.8.04 29/6/04 11/7/04 दिनांक एवं हस्ताक्षर DATE & SIGNATURE	अनुवादक TRANSLATED BY	नाम NAME	दिनांक एवं हस्ताक्षर SIGN. & DATE
				निर्माणकर्ता WORKED BY	KN	29/6/04
P-5972	REV. NO. 01 DATED: 12.8.04	पर्यवेक्षणकर्ता SUPERVISED BY		K.R.G.	29/6/04	29/6/04
		रवीकृति : APPROVED :		7/8/04 DEVRAJ (AGM/TGE)		
		निर्माण PREPARED		जारी ISSUED		दिनांक : DATE
		TGE, HEEL, HWR		TGE, HEEL, HWR		01-11-93

सामग्री सूची संख्या INVENTORY NO. A-5972	हस्ताक्षर एवं दिनांक SIGN & DATE 11/10/04	स्वत्वधिकार एवं गोपनीय The information in this document is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.	SUPERSEDES INVENTORY NO.	दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक PRODUCT STANDARD TURBOGENERATOR ENGINEERING	TG60456
					पृष्ठ 2 का 2 Page 2 of 2		
					7.0 <u>WORKING PRESSURE:</u> 150kg/cm ²		
					8.0 <u>MATERIAL</u> The cylinders shall conform to IS: 7285 and shall be made of seamless steel tubes high carbon manganese steel. The valve body shall be made of brass and internals of stainless steel.		
					9.0 <u>TEST REQUIREMENTS OF CYLINDERS:</u> As per IS: 7285		
					10.0 <u>PAINTING AND MARKING ON CYLINDERS</u> To be as per IS: 7285		
					11.0 <u>INFORMATION REQUIRED WITH THE OFFER</u> Cylinder drawing indicating the following details: <ul style="list-style-type: none"> a. The standard to which cylinder and fitting conform. b. Capacity, size and wall thickness of cylinder. c. Details and arrangement of fittings. d. Minimum wall thickness of cylinder. e. Working pressure, pneumatic test pressure, hydraulic test pressure and hydraulic stretch test pressure and hydraulic stretch test pressure. 		
					12.0 <u>TEST CERTIFICATES</u> <ul style="list-style-type: none"> a. Test certificates for all tests indicate in clauses 9.0 of this specification. b. Manufacturer shall be furnish inspection certificates from BIS and approval certificates from from Dept. of Explosives, Nagpur. 		
					13.0 <u>GENERAL</u> <ul style="list-style-type: none"> a. The offers submitted shall be strictly in line with the requirements specified in this specification. b. All the documents as required in clause 11 and 12 shall be submitted in 5 copies. 		
					14.0 <u>BASED ON:</u> BHEL Experience		
					15.0 <u>CROSS REFERRED STANDARD:</u> IS: 3224, IS: 7285,		
01	REV.				निर्माणकर्ता Worked by K N	25/6/04	25/6/04
					जांचकर्ता Checked by KRG	29/6/04	29/6/04

दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक 		TG60457											
सामग्री सूची संख्या INVENTORY NO.		SUPERSEDES INVENTORY NO.		पृष्ठ 2 का 1 Page 1 of 2											
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.															
स्वत्वाधिकार एवं गोपनीय इस दस्तावेज में दी गई सूचना भारत भारी बिजलीय उपकरण लिमिटेड की संपत्ति है। इसमें कोई भी जानकारी बिना लिखित अनुमति के किसी भी प्रकार से प्रयोग नहीं की जाननी चाहिए।															
<h3 style="text-align: center;">EMPTY CARBONDIOXIDE CYLINDER</h3>															
<h4>1.0 SCOPE</h4> <p>This specification covers the design, manufacture, testing and supply of EMPTY SEAMLESS CARBONDIOXIDE CYLINDER As per the requirements specified herein.</p>															
<h4>2.0 STANDERD APPLICABLE</h4> <p>Latest addition of IS: 3224 and IS: 7285.</p>															
<h4>3.0 DIMENSIONS</h4> <table border="0"> <tr> <td>a.</td> <td>Outside diameter</td> <td>=232 mm.</td> </tr> <tr> <td>b.</td> <td>Cylinder wall thickness</td> <td>=5.4 mm.(Min)</td> </tr> <tr> <td>c.</td> <td>Overall length</td> <td>=1450 mm</td> </tr> </table>						a.	Outside diameter	=232 mm.	b.	Cylinder wall thickness	=5.4 mm.(Min)	c.	Overall length	=1450 mm	
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b.	Cylinder wall thickness	=5.4 mm.(Min)													
c.	Overall length	=1450 mm													
<h4>4.0 DESIGN</h4> <p>The top end should be necked down to 2" dia. And screwed internally to dia 1" standard taper 1 in 8, 14 TPI to IS: 3224. The bottom of cylinder shall be concave.</p>															
<h4>5.0 FITTINGS</h4> <p>The Gas cylinder should be complete with the following fittings/accessories.</p> <table border="0"> <tr> <td>a.</td> <td>neck collar</td> </tr> <tr> <td>b.</td> <td>protection cap.</td> </tr> <tr> <td>c.</td> <td>outlet valve to IS: 3224</td> </tr> <tr> <td>d.</td> <td>Syphon tube</td> </tr> <tr> <td>e.</td> <td>Safety valve / bursting disc</td> </tr> </table>						a.	neck collar	b.	protection cap.	c.	outlet valve to IS: 3224	d.	Syphon tube	e.	Safety valve / bursting disc
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d.	Syphon tube														
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<h4>6.0 CAPACITY</h4> <table border="0"> <tr> <td>a.</td> <td>Water capacity</td> <td>=46.7 Liters</td> </tr> <tr> <td>b.</td> <td>Volume of Gas at NTP</td> <td>=17.4 M³ (app)</td> </tr> </table>						a.	Water capacity	=46.7 Liters	b.	Volume of Gas at NTP	=17.4 M ³ (app)				
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b.	Volume of Gas at NTP	=17.4 M ³ (app)													
हस्ताक्षर एवं दिनांक SIGN & DATE		नाम NAME		दिनांक एवं हस्ताक्षर SIGN. & DATE											
TSX KISHAN LAL		अनुवादक TRANSLATED BY													
PSC Member L. CHAND		निर्माणकर्ता WORKED BY		KN											
QAX D. KUMAR		जांचकर्ता CHECKED BY		K.R.G.											
सहमत विभाग AGREED DEPT.		पर्यवेक्षणकर्ता SUPERVISED BY		K.R.GUPTA											
नाम NAME		दिनांक एवं हस्ताक्षर DATE & SIGNATURE													
स्वीकृति : APPROVED :		DEVRaj (AGM/TGE)													
REV. NO. 01		निर्माण PREPARED		जारी ISSUED											
DATED: 12-8-04		TGE, HEEP, HWR		दिनांक : DATE 01-11-93											

सामग्री सूची संख्या INVENTORY NO P-5971	प्रस्तावक एवं दिनांक SIGN & DATE 14.8.04	स्वत्वाधिकार एवं गोपनीय The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.	सामग्री सूची संख्या INVENTORY NO	SUPERSEDES दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक	TG60457
						PRODUCT STANDARD TURBOGENERATOR ENGINEERING	पृष्ठ 2 का 2 Page 2 of 2
<p>7.0 <u>WORKING PRESSURE</u></p> <p>Filling pressure = 150 kg/cm² (g) at 15°C (max.)</p> <p>8.0 <u>MATERIAL</u></p> <p>The cylinder shall conform to IS: 7285 and shall be made of seamless steel tubes high carbon manganese steel. The valve body shall be made of brass and internals of stainless steel.</p> <p>9.0 <u>TEST REQUIREMENTS OF CYLINDERS:</u> As per IS: 7285.</p> <p>10.0 <u>PAINTING AND MARKING ON CYLINDERS</u></p> <p>To be as per IS: 7285</p> <p>11.0 <u>INFORMATION REQUIRED WITH THE OFFER</u></p> <p>Cylinder drawing indicating the following details:</p> <ol style="list-style-type: none"> The standard to which cylinder and fitting conform. Capacity, size and wall thickness of cylinder. Details and arrangement of fittings. Minimum wall thickness of cylinder. Working pressure, pneumatic test pressure, hydraulic test pressure and hydraulic stretch test pressure and hydraulic stretch test pressure. Filling ratio of cylinder <p>12.0 <u>TEST CERTIFICATES</u></p> <ol style="list-style-type: none"> Test certificates for all tests indicate in clauses 9.0 of this specification. Manufacturer shall be furnish inspection certificates from BIS and approval certificates from from Dept. Of explosives Nagpur. <p>13.0 <u>GENERAL</u></p> <ol style="list-style-type: none"> The offers submitted shall be strictly in line with the requirements specified in this specification. All the documents as required in clause 11 and 12 shall be submitted in 5 copies <p>14.0 <u>BASED ON :</u> BHEL Experience.</p> <p>15.0 <u>CROSS REFERRED STANDARDS:</u></p> <p>IS: 7285, IS: 3224</p>							
REV. 01			निर्माणकता Worked by	KN		29/6/04	
			जांचकर्ता Checked by	KRG		29/6/04	

दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक PRODUCT STANDARD TURBOGENERATOR ENGINEERING	TG60462 पृष्ठ 2 का 1 Page 1 of 2
सामग्री सूची संख्या INVENTORY NO.	सामग्री सूची संख्या INVENTORY NO.	EMPTY NITROGEN CYLINDER	
1.0 SCOPE This specification covers the design, manufacture, testing and supply of EMPTY SEAMLESS NITROGEN CYLINDER As per the requirements specified herein.		2.0 STANDARD APPLICABLE Latest addition of IS: 3224 and IS: 7285. 3.0 DIMENSIONS a. Outside diameter =232 mm. b. Cylinder wall thickness =5.4 mm.(Min) c. Overall length =1445 mm 4.0 DESIGN The top end should be necked down to 2" dia. And screwed internally to dia 1" standard taper 1 in 8, 14 TPI to IS: 3224. The bottom of cylinder shall be concave. 5.0 FITTINGS The Gas cylinder should be complete with the following fittings/accessories. a. neck collar b. protection cap. c. outlet valve to IS: 3224 6.0 CAPACITY a. Water capacity =46.7 Liters b. Volume of Gas =7 M ³ (app)	
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3.0 DIMENSIONS a. Outside diameter =232 mm. b. Cylinder wall thickness =5.4 mm.(Min) c. Overall length =1445 mm			
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6.0 CAPACITY a. Water capacity =46.7 Liters b. Volume of Gas =7 M ³ (app)			
हस्ताक्षर एवं दिनांक SIGN & DATE	हस्ताक्षर एवं दिनांक SIGN & DATE	नाम NAME	दिनांक एवं हस्ताक्षर SIGN. & DATE
TSX PSC Member QAX सहमत विभाग AGREED DEPT.	KISHAN LAL L. CHAND D. KUMAR नाम NAME	अनुवादक TRANSLATED BY निर्माणकर्ता WORKED BY जांचकर्ता CHECKED BY पर्यवेक्षणकर्ता SUPERVISED BY	KN K.R.G. K.R.GUPTA
REV. NO. 01 DATED: 12-8-04	14-8-04	स्वीकृति : APPROVED : DEBRAJ (AGM/TGE)	29/6/04 29/6/04 29/6/04
सामग्री सूची संख्या INVENTORY NO.	सामग्री सूची संख्या INVENTORY NO.	निर्माण PREPARED TGE, HEPP, HWR	जारी ISSUED TGE, HEPP, HWR दिनांक : DATE 01-11-93

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सामग्री सूची संख्या INVENTORY NO. P-5971	दिनांक एवं SIGN & DATE 14.8.04	स्वतंत्रताधिकार एवं गोपनीय The information in this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.	सामग्री सूची संख्या INVENTORY NO.	दिनांक एवं SIGN & DATE	उत्पाद मानक PRODUCT STANDARD TURBOGENERATOR ENGINEERING	TG60457								
			SUPERSEDES INVENTORY NO.	पृष्ठ 2 का 2 Page 2 of 2										
<p>7.0 <u>WORKING PRESSURE</u></p> <p>Filling pressure = 150 kg/cm² (g) at 15°C (max.)</p> <p>8.0 <u>MATERIAL</u></p> <p>The cylinder shall conform to IS: 7285 and shall be made of seamless steel tubes high carbon manganese steel. The valve body shall be made of brass and internals of stainless steel.</p> <p>9.0 <u>TEST REQUIREMENTS OF CYLINDERS:</u> As per IS: 7285.</p> <p>10.0 <u>PAINTING AND MARKING ON CYLINDERS</u></p> <p>To be as per IS: 7285</p> <p>11.0 <u>INFORMATION REQUIRED WITH THE OFFER</u></p> <p>Cylinder drawing indicating the following details:</p> <ol style="list-style-type: none"> The standard to which cylinder and fitting conform. Capacity, size and wall thickness of cylinder. Details and arrangement of fittings. Minimum wall thickness of cylinder. Working pressure, pneumatic test pressure, hydraulic test pressure and hydraulic stretch test pressure and hydraulic stretch test pressure. Filling ratio of cylinder <p>12.0 <u>TEST CERTIFICATES</u></p> <ol style="list-style-type: none"> Test certificates for all tests indicate in clauses 9.0 of this specification. Manufacturer shall be furnish inspection certificates from BIS and approval certificates from from Dept. Of explosives Nagpur. <p>13.0 <u>GENERAL</u></p> <ol style="list-style-type: none"> The offers submitted shall be strictly in line with the requirements specified in this specification. All the documents as required in clause 11 and 12 shall be submitted in 5 copies <p>14.0 <u>BASED ON :</u> BHEL Experience.</p> <p>15.0 <u>CROSS REFERRED STANDARDS:</u></p> <p>IS: 7285, IS: 3224</p>														
REV. 01			<table border="1"> <tr> <td>निर्माणकर्ता Worked by</td> <td>KN</td> <td>14/8/04</td> <td>29/6/04</td> </tr> <tr> <td>जांचकर्ता Checked by</td> <td>KRG</td> <td>14/8/04</td> <td>29/6/04</td> </tr> </table>				निर्माणकर्ता Worked by	KN	14/8/04	29/6/04	जांचकर्ता Checked by	KRG	14/8/04	29/6/04
निर्माणकर्ता Worked by	KN	14/8/04	29/6/04											
जांचकर्ता Checked by	KRG	14/8/04	29/6/04											

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