

Zoznam dokum. k záv. hodnoteniu – Čerp.jednotky List of documents for final assess. – Pumping units				Zoz.ZH-PU
Projekt / Project:		Kyslíkový aparát č. 9 / ASU- 9 Košice, Tank Farm		
Dodávateľ / Supplier:		Air Liquide AGS		
Por. č. Ord. No.	Čerp. jednotka č. Pumping unit No.	Dok. č. – v prílohe Doc. No. – enclosed	Dok. č. – v AL zložke Doc. No. – in AL file	Zložka č. File No.
1	P73101, P73201	VT-A.PU-01		
	- Čerpadlo / Pump		04.270/1,2 Cert.; E10863-1 Declar.	3.7.5.1
	- El. motor		Certif. of conformity DDG	3.7.5.1
	- Hadice / Hoses		FT-A04.202032 Cert. (2); Declar.	3.7.5.1
2	P74101, P74201	VT-A.PU-02		
	- Čerpadlo / Pump		04.269/1,2 Cert.; E10863-1 Declar.	3.7.5.2
	- El. motor		Certif. of conformity DDG	3.7.5.2
	- Hadice / Hoses		FT-A04.202032 Cert. (2); Declar.	3.7.5.2
3	P72001	VT-A.PU-03		
	- Čerpadlo / Pump		04.271/2 Cert.; E10863-1 Declar.	3.7.4
	- El. motor		Certif. of conformity DDG	3.7.4
	- Hadice / Hoses		FT-A04.202032 Cert. (2); Declar.	3.7.4
4	P63001	VT-A.PU-04		
	- Čerpadlo / Pump		04.268/1 Cert.; E10863-1 Declar.	3.6.5
	- El. motor		Certif. of conformity DDA	3.6.5
	- Hadice / Hoses		FT-A04.202032 Cert. (2); Declar. (2)	3.6.5
5	P64101, P64201	VT-A.PU-05		
	- Čerpadlo / Pump		04.267/1,2 Cert.; E10863-1 Declar.	3.6.6
	- El. motor		Decl. of conformity ; 2110 Test report	3.6.6
	- Hadice / Hoses		FT-A04.202032 Cert. (2); Declar. (2)	3.6.6
6	P62001	VT-A.PU-06		
	- Čerpadlo / Pump		04.271/1 Cert.; E10863-1 Declar.	3.6.4
	- El. motor		Certif. of conformity DDG	3.6.4
	- Hadice / Hoses		FT-A04.202032 Cert. (2); Declar. (2)	3.6.4

	Project: Air Liquide AGS AIR SEPARATION UNIT No. 9 U. S. STEEL Košice, Slovakia
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VT-A.PU-01

CONSRUCTION TEST REPORT

<u>Equipment</u>	LIN CRYOGENIC PUMPING UNITS	
Pump		
Manufacturer	SEFCO AG	SEFCO AG
Type	CL-19/EM-18.5	CL-19/EM-18.5
Tag No.	P 73101	P 73201
Serial No.	04-270/1	04-270/2
Working temperature	-196 to +50 °C	-196 to +50 °C
MAWP Q	40 bar 519,2 L/min	40 bar 519,2 L/min
Electric motor	Mfr: Theo Halter GmbH	Mfr: Theo Halter GmbH
Type	DDG 160L2 CE	DDG 160L2 CE
Output kW	18,5	18,5
Speed rpm	4590 (4000 – 4900)	4590 (4000 – 4900)
Steel hoses		
Suction hose	DN 65, PN 6	DN 65, PN 6
Discharge hose	DN 40, PS 40 CE	DN 40, PS 40 CE
Test Result	satisfactory	satisfactory

Notes : 1/ Inspection executed at the place of installation – Tank Farm.
 2/ CE: EU regulation conformity mark is on the product.

Košice, December 2005


 L. Šalát, M.E.

 name and signature
 of authorized person

	Project: Air Liquide AGS AIR SEPARATION UNIT No. 9 U. S. STEEL Košice, Slovakia
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VT-A.PU-01


CONSTRUCTION TEST REPORT

<u>Equipment</u>	LIN CRYOGENIC PUMPING UNITS	
Pump		
Manufacturer	SEFCO AG	SEFCO AG
Type	CL-19/EM-18.5	CL-19/EM-18.5
Tag No.	P 73101	P 73201
Serial No.	04-270/1	04-270/2
Working temperature	-196 to +50 °C	-196 to +50 °C
MAWP Q	40 bar 519,2 L/min	40 bar 519,2 L/min
Electric motor	Mfr: Theo Halter GmbH	Mfr: Theo Halter GmbH
Type	DDG 160L2 C€	DDG 160L2 C€
Output kW	18,5	18,5
Speed rpm	4590 (4000 – 4900)	4590 (4000 – 4900)
Steel hoses		
Suction hose	DN 65, PN 6	DN 65, PN 6
Discharge hose	DN 40, PS 40 C€	DN 40, PS 40 C€
Test Result	satisfactory	satisfactory

Notes : 1/ Inspection executed at the place of installation – Tank Farm.

2/ C€: EU regulation conformity mark is on the product.

Košice, December 2005


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VT-A.PU-02

CONSTRUCTION TEST REPORT

<u>Equipment</u>	LIN CRYOGENIC PUMPING UNITS	
Pump		
Manufacturer	SEFCO AG	SEFCO AG
Type	C-19/G2/EM-22	C-19/G2/EM-22
Tag No.	P 74101	P 74201
Serial No.	04.269-1	04.269-2
Working temperature	-196 to +50 °C	-196 to +50 °C
MAWP Q	40 bar 150 L/min	40 bar 150 L/min
Electric motor	Mfr: Theo Halter GmbH	Mfr: Theo Halter GmbH
Type	DDG 180M2 C€	DDG 180M2 C€
Output kW	22	22
Speed rpm	2950	2950
Steel hoses		
Suction hose	DN 65, PN 6	DN 65, PN 6
Discharge hose	DN 40, PS 40 C€	DN 40, PS 40 C€
Test Result	satisfactory	satisfactory

Notes : 1/ Inspection executed at the place of installation – Tank Farm.
2/ C€: EU regulation conformity mark is on the product.

Košice, December 2005


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VT-A.PU-03

CONSTRUCTION TEST REPORT


<u>Equipment</u>	LIN CRYOGENIC PUMPING UNIT	
Pump		
Manufacturer	SEFCO AG	
Type	C-20-EM-15	
Tag No.	P 72001	
Serial No.	04.271-2	
Working temperature	-196 to +50 °C	
MAWP Q	13 bar 1000 L/min	
Electric motor	Mfr: Theo Halter GmbH	
Type	DDG 160MB2 CE	
Output kW	15	
Speed rpm	2820	
Steel hoses		
Suction hose	DN 100, PS 6	
Discharge hose	DN 65, PS 15 CE	
Test Result	satisfactory	

Notes : 1/ Inspection executed at the place of installation – Tank Farm.

2/ The equipment is marked „P72100“ unlike documentation, where marked P72001.

3/ CE: EU regulation conformity mark is on the product.

Košice, December 2005


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VT-A.PU-04


CONSTRUCTION TEST REPORT

Equipment	LOX CRYOGENIC PUMPING UNIT	
Pump		
Manufacturer	SEFCO AG	
Type	CL-19/EM-4	
Tag No.	P 63001	
Serial No.	04.268	
Working temperature	-196 to +50 °C	
MAWP	Q	40 bar 104,4 L/min
Electric motor	Mfr: Theo Halter GmbH	
Type	DDA 112M2F-AS	CE
Output	kW	4
Speed	rpm	2885
Steel hoses		
Suction hose	DN 65, PS 6	CE
Discharge hose	DN 40, PS 25	CE
Test Result	satisfactory	

Notes : 1/ Inspection executed at the place of installation – Tank Farm.

2/ CE: EU regulation conformity mark is on the product.

Košice, December 2005


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VT-A.PU-05


CONSTRUCTION TEST REPORT

Equipment	LOX CRYOGENIC PUMPING UNITS	
Pump		
Manufacturer	SEFCO AG	SEFCO AG
Type	C-25/G2/EM-55	C-25/G2/EM-55
Tag No.	P 64101	P 64201
Serial No.	04.267/1	04.267/2
Working temperature	-196 to +50 °C	-196 to +50 °C
MAWP Q	40 bar 501 L/min	40 bar 501 L/min
Electric motor	Mfr: WEG	Mfr: WEG
Type	250SM2 0904 C€	250SM2 0904 C€
Output kW	55	55
Speed rpm	2960	2960
Steel hoses		
Suction hose	DN 65, PS 6 C€	DN 65, PS 6 C€
Discharge hose	DN 50, PS 40 C€	DN 50, PS 40 C€
Test Result	satisfactory	satisfactory

Notes : 1/ Inspection executed at the place of installation – Tank Farm.

2/ C€: EU regulation conformity mark is on the product.

Košice, December 2005


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VT-A.PU-06

CONSTRUCTION TEST REPORT


<u>Equipment</u>	LOX CRYOGENIC PUMPING UNIT	
Pump		
Manufacturer	SEFCO AG	
Type	C-20-EM-15	
Tag No.	P 62001	
Serial No.	04.271-1	
Working temperature	-196 to +50 °C	
MAWP Q	13 bar 1000 L/min	
Electric motor	Mfr: Theo Halter GmbH	
Type	DDG 160MB2 CЄ	
Output kW	15	
Speed rpm	2950	
Steel hoses		
Suction hose	DN 100, PS 6 CЄ	
Discharge hose	DN 65, PS 15 CЄ	
Test Result	satisfactory	

Notes : 1/ Inspection executed at the place of installation – Tank Farm.

2/ The equipment is marked „P62100“ unlike documentation, where marked P62001.

3/ CЄ: EU regulation conformity mark is on the product.

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