

LINDE AG

Linde Engineering Division

Olefins Recovery

Linde project no.

04/3110A2J4

Linde doc no. / Owner doc no

R-SP 1003.064

page 1 of 7

pipeclass

BAQT72

X	3.0	22.09.14	ENPPE	Singh	Friegseder	Gläser	
X	2.0	28.02.14	ENPPE	Bratu	Friegseder	Gläser	
X	1.0	28.06.13	ENPPE	Harm	Friegseder	Gläser	
status	issue	date	dept	created	checked	approved	Notes

LINDE AG Linde Engineering Division	pipeclass BAQT72	Linde project no. 04/3110A2J4 Linde document no. R-SP 1003.064
	Olefins Recovery	page 2 of 7 issue 3.0 date 22.09.14

Commodity Code Specification	1 012	2 D	3 1	4 BA14	5 A	6 A07	7 A10	8 A04	9 A11	10 A14	11 A13	12 2	13 XX	14 I	15 B057B	16 012.1	17 *	18 *	19 *	20 *	21 *	
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scope	ASME B31.3	facing	-RF AARH125-250
pressure level	CL150	corrosion allowance	1.6 mm

Fluid Group	fluid group 012
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[illegible][illegible]

general notes	<ol style="list-style-type: none"> 1) NPS 2 1/2 inch shall not be used except for connection to the equipment, for fire hydrants and/or control valves connections 2) General Note: All lines with parts \geqNPS4 to be prefabricated (spools flanged) and afterwards hot dip galvanized on site
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LINDE AG Linde Engineering Division	pipeclass BAQT72									Linde project no. 04/3110A2J4 Linde document no. R-SP 1003.064
	Olefins Recovery									page 3 of 7 issue 3.0 date 22.09.14

part	part code	nominal size from	to	standard	end prep.	nominal pressure	material	delivery conditions	notes, remarks	commodity code	company code	rev.
Pipe	R	1/2 "	3 "	ASME B36.10/19	AA	*	API 5L GR.B GALV.	011-6XX B01	Pipe seamless galv. thread.ends	PPT_*AAA1D3A0*G*		0
	R	4 "	14 "	ASME B36.10/19	BB	*	API 5L GR.B	011-6XX B01	2), seamless	PPS_*BBA1D1A0***		0
Flange	F	1/2 "	3 "	ASME B16.5	IF	CL150	ASTM A105 GALV.	021-6XX B01	galvanized, threaded	FTF_AIFA1D2D01**		0
	F	4 "	14 "	ASME B16.5	BF	CL150	ASTM A105	021-6XX B01	2),	FWN_ABFA1D1D01**		0
	F1	1/2 "	3 "	ASME B16.5	BF	CL150	ASTM A105	021-6XX B01	weld neck flange	FWN_ABFA1D1D01**		0
	F3	1/2 "	3 "	ASME B16.5	IF	CL300	ASTM A105 GALV.	021-6XX B01	galvanized, threaded	FTF_AIFA1D2D03**		0
	F3	4 "	14 "	ASME B16.5	BF	CL300	ASTM A105	021-6XX B01	2),	FWN_ABFA1D1D03**		0
	ZC1	1 "	1 "	ASME B16.5	BF	CL150	ASTM A105	021-6XX B01	I00), Weld Neck Flange	FWN_ABFA1D1D01**		0
Blind Flange	FB	1/2 "	14 "	ASME B16.5	F	CL150	ASTM A105 GALV.	021-6XX B01	galvanized	FB_AF_A1D2D01**		0
Fig.8-Blind	FS	1/2 "	10 "	ASME B16.48	FF	CL150	ASTM A240 GR.316L	021-6XX B01		FF8_AFFA6AAD01**		0
Slip Plate	FSB	12 "	14 "	ASME B16.48	FF	CL150	ASTM A240 GR.316L	021-6XX B01		FSP_AFFA6AAD01**		0
Slip Ring	FSL	12 "	14 "	ASME B16.48	FF	CL150	ASTM A240 GR.316L	021-6XX B01		FSR_AFFA6AAD01**		0
Elbow 45	B45	1/2 "	3 "	ASME B16.11	II	CL3000	ASTM A105 GALV.	014-6XX B01	elbow galv. threaded	CEBT*IIA1H1C0B**		0
	B45	4 "	14 "	ASME B16.9	BB	*	ASTM A234 GR.WPB	014-6XX B01	2), seamless	CEBSLBBA1D1C0***		0
Elbow 90	B90	1/2 "	3 "	ASME B16.11	II	CL3000	ASTM A105 GALV.	014-6XX B01	elbow galv. threaded	CEDT*IIA1H1C0B**		0
	B90	4 "	14 "	ASME B16.9	BB	*	ASTM A234 GR.WPB	014-6XX B01	2), seamless	CEDSLBBA1D1C0***		0
Reducer	RDE	4 "	14 "	ASME B16.9	BB	*	ASTM A234 GR.WPB	014-6XX B01	2), seamless	CRES*BBA1D1C0***		0
Bushing	RDG	1/2 "	3 "	ASME B16.11	AI	CL3000	ASTM A105 GALV.	014-6XX B01	galvanized	CHHB*AIA1H1C0B**		0
Coupling	MU	1/2 "	3 "	ASME B16.11	II	CL3000	ASTM A105 GALV.	014-6XX B01	galvanized	CCPT*IIA1H1C0B**		0
Cap	BD	1/2 "	3 "	ASME B16.11	I	CL3000	ASTM A105 GALV.	014-6XX B01	galvanized, threaded	CCT_*I_A1H1C0B**		0
	BD	4 "	14 "	ASME B16.9	B	*	ASTM A234 GR.WPB	014-6XX B01	2),	CCB_*B_A1D1C0***		0
Plug	BS	1/2 "	3 "	ASME B16.11	A	*	ASTM A105 GALV.	014-6XX B01	galvanized	CPL_SA_A1F2C0***		0
Branches	A	1/2 "	3 "	ASME B16.11	II	CL3000	ASTM A105 GALV.	014-6XX B01	A00), Tee, galv., threaded, straight	CTTS*IIA1H1C0B**		0
	A	3/4 "	3 "	ASME B16.11	II	CL3000	ASTM A105 GALV.	014-6XX B01	A00), Tee, galv., threaded, reduced	CTTR*IIA1F2C0B**		0
	A	4 "	14 "	ASME B16.9	BB	*	ASTM A234 GR.WPB	014-6XX B01	2), A00), Tee, seamless, straight	CTSS*BBA1D1C0***		0
	A	8 "	14 "	ASME B16.9	BB	*	ASTM A234 GR.WPB	014-6XX B01	2), A00), Tee, seamless, reduced	CTRS*BBA1D1C0***		0

LINDE AG Linde Engineering Division	pipeclass BAQT72									Linde project no. 04/3110A2J4 Linde document no. R-SP 1003.064
	Olefins Recovery									page 4 of 7 issue 3.0 date 22.09.14

part	part code	nominal size from	to	standard	end prep.	nominal pressure	material	delivery conditions	notes, remarks	commodity code	company code	rev.
Branches	A	4 "	14 "	MSS SP-97	TI	CL3000	ASTM A105	014-6XX B01	2), A00), Thredolet	CTH_*TIM1S1C0B**		0
	A	8 "	14 "	MSS SP-97	TB	*	ASTM A105	014-6XX B01	2), A00), Weldolet STD	CW1_1TBM1S1C0***		0
	A	4 "	4 "	LS 801-10 / ASME	T	*	API 5L GR.B	*	2), A00), Unreinforced branch	CUB_*T_LAD1*****		0
	A	2 1/2 "	3 "						A00), Special Branch			0
Lift Check Valve	D-G	1/2 "	2 "	ASP 6DT03/ASME	II	CL800	CRNI-STEEL (ASME)	031-6XX B01	V01), threaded	VLC_*IIDGA2E0D**		0
Check Valve	E-WL	3 "	14 "	ASP 1ER126/ASME	FL	CL150	CRNI-STEEL (ASME)	031-6XX B01	V02), lug type	VCHBMFL2EA2E01L*		0
Ball Valve	K-F	3 "	4 "	ASP 1KR07/ASME	FF	CL150	CRNI-STEEL (ASME)	031-6XX B01	flanged	VBA_AFFH5A2E01**		0
	K-F	6 "	14 "	ASP 1KR07/ASME	FF	CL150	CRNI-STEEL (ASME)	031-6XX B01	flanged	VBA_AFFH5A2E01K*		0
	K-G	1/2 "	2 "	ASP 1KT02/ASME	II	CL150	CRNI-STEEL (ASME)	031-6XX B01	threaded	VBA_*IIH4A2E01**		0
Y-Strainer	NFF	2 1/2 "	8 "	ASP 1NR63/ASME	FF	CL150	CRNI-STEEL (ASME)	031-6XX B01	V05), flanged	VSY_AFFD4A2E01J*		0
	NFG	2 1/2 "	8 "	ASP 1NR62/ASME	FF	CL150	CRNI-STEEL (ASME)	031-6XX B01	V04), flanged	VSY_AFFD3A2E01G*		0
	NGF	1/2 "	2 "	ASP 6NT04/ASME	II	CL800	CRNI-STEEL (ASME)	031-6XX B01	V05), threaded	VSY_*IID2A2E0DJ*		0
	NGG	1/2 "	2 "	ASP 6NT03/ASME	II	CL800	CRNI-STEEL (ASME)	031-6XX B01	V04), threaded	VSY_*IID1A2E0DG*		0
Valve for Assembly	M-F	1/2 "	2 "	ASP 1KR07/ASME	FF	CL150	CRNI-STEEL (ASME)	031-6XX B01	V03), flanged	VBA_AFFH5A2E01**		0
Bolt	BLT	1/2 "	14 "	ASME/ANSI B16.5	**	*	ASTM A193 GR.B7 GALV.	042-6XX B01		BSB_***A1C3F0***		0
Stud	STUD	3 "	14 "	ASME B18.2.1	**	*	ASTM A193 GR.B7 GALV.			BHS_U**A5C3F0***		0
Nut	NUT	1/2 "	14 "	ASME B18.2.2	**	*	ASTM A194 GR.4 GALV.	042-6XX B01		BHN_V**A2G5F0***		0
Gasket	GAS	1/2 "	14 "	R-SP -1020		CL150	RUBBER-ST	048-6XX B01	Rubber Reinforced	GRR_AR1R2RUG01**		0
	GAS3	1/2 "	2 "	R-SP -1020		CL300	RUBBER-ST	048-6XX B01	Rubber Reinforced	GRR_AR2R2RUG03**		0
Flange Union	FVA	1/2 "	14 "	LS 428-01 / ASME		CL150			F01),	FUG1_ASLA**1**		0
	FVA3	1/2 "	2 "	LS 428-01 / ASME		CL300			F01),	FUG1_ASLAC33**		0
	FVL	3 "	14 "	LS 428-01 / ASME		CL150			F11),	FUG2EAHLAEE1W*		0
	FVC	1/2 "	14 "	LS 428-01 / ASME		CL150			F03),	FUG2CASLAF71**		0
Nozzle Type AB	ZAB	1 "	1 "	LS 491-11 / ASME	TB	*	ASTM A105	014-6XX B01	I00),	CNAB*TBL1S1C0***		0
Nozzle Type AM	ZAM	4 "	14 "	MSS SP-97	TI	CL3000	ASTM A105	014-6XX B01	I00),	CTH_*TIM1S1C0B**		0

LINDE AG Linde Engineering Division	pipeclass BAQT72					Linde project no. 04/3110A2J4	
						Linde document no. R-SP 1003.064	
	Olefins Recovery					page 5 of 7 issue 3.0 date 22.09.14	

part	part code	nominal size from to		standard	end prep.	nominal pressure	material	delivery conditions	notes, remarks	commodity code	company code	rev.
Nozzle Type AY	ZAY	2 1/2 "	3 "	ASME B16.11	II	CL3000	ASTM A105 GALV.	014-6XX B01	I00), Tee, galv., threaded,reduced	CTTR*IIA1F2C0B**		0
	ZAY	4 "	14 "	LS 433-12/ASME	TB	CL150	API 5L GR.B	011-6XX B01	2), I00),	CNAY*TBL3D1A01**		0
Buttweld	RN	1 "	1 "	ASME			CS-LS145-10/2 REF.1.1			WBW__D1*VA1		0
	RN	4 "	14 "	ASME			CS-LS145-10/2 REF.1.1			WBW__D1*VA1		0
Drain or Vent	AP5E	1 "	4 "	R-SP 1004.002 / ASME						AP5E__ARAAS		0
	AP7E	1 "	14 "	R-SP 1004.002 / ASME						AP7EX_ARAAS		0
Temp. Measurement	AP7X	4 "	14 "	R-SP 1004.002 / ASME						AP7BT_*RAA0		0
	AP7	4 "	14 "	R-SP 1004.002 / ASME						AP7__ARAAS		0
Press./Diff.- Press.	AP7A	1 "	14 "	R-SP 1004.002 / ASME						AP7AY_ARAAS		0
Flow Measurement	AP30A	1/2 "	14 "	R-SP 1004.002 / ASME						AP30A_ARAA8		0
	AP33	1 "	14 "	R-SP 1004.002 / ASME						AP33__ARAAS		0

LINDE AG Linde Engineering Division	pipeclass BAQT72	Linde project no. 04/3110A2J4	
	Olefins Recovery	Linde document no. R-SP 1003.064	
		page 6 of 7	
		issue 3.0 date 22.09.14	

notes on items

- 2)
- General Note: All lines with parts >=NPS4 to be prefabricated (spools flanged) and afterwards hot dip galvanized on site
- A00)
- Branches: Part-Selection see Branch-Table
- F01)
- Flange-Union: Without Wafer-Type
- F03)
- Flange-Union: Fig.-8 Blind, Slip-Ring, Slip-Plate
- F11)
- Flange-Union: Check-Valve Lug-Type
- I00)
- Assembly: Assembly-Parts
- V01)
- Valve: Installation horizontal and vertical
- V02)
- Valve: Installation horizontal and vertikal, with flow upwards
- V03)
- Valve: Use for Instrument-Connection
- V04)
- Valve: Strainer Mesh-Opening 1.0 mm for gases
- V05)
- Valve: Strainer Mesh-Opening 1.6 mm for liquids

concepts

branch table

Header <

branch NPS2

SPB	Special Branch
TH	Threadolet
TRS	Tee reduced smls.
TSS	Tee straight smls.
TTR	Tee reduced threaded
TTS	Tee straight threaded
UB	Unreinforced Branch
W1	Weldolet STD