

HYDROCARBON PROCESS PIPING
700 PSIG @ OF MAX.
MINUS 150F.

PIPE

P-44 1/2 THRU 1-1/2 ASTM A-312 GR TP-304, SCH 80S SEAMLESS
STAINLESS STEEL PIPE.

N-1 ALL NIPPLES USED FOR INSTRUMENT, DRAIN,
VENT AND TEST CONNECTIONS SHALL BE MIN SCH
80.

P-35 2 THRU 10 ASTM A-312 GR TP-304, SCH 40S SEAMLESS
STAINLESS STEEL PIPE.

FITTINGS E=90 DEG ELL, L=45 DEG ELL, T=TEE, X=CROSS, R=REDUCER

ELTR-61 1/2 THRU 1-1/2 3000-LB FORGED STAINLESS STEEL SCREWED
FITTINGS, ASTM A-182 GR F-304.

PC-6 HEX HEAD GR F-304 STAINLESS PIPE PLUG,
LADISH.

C-13 3000-LB STAINLESS STEEL SCREWED COUPLING,
ASTM A-182 GR F-304.

U-12 3000-LB SCREWED STAINLESS STEEL UNION, ASTM
A-182 GR F-304.

R-83 EX HEAVY TYPE 304 STAINLESS STEEL SWAGED
NIPPLE.

ELTR-63 2 THRU 10 SCH 40S STAINLESS STEEL WELDING FITTINGS,
ASTM A-403 GR WP-304. SIZES OVER 12 INCH TO
BE 0.375 WALL.

PC-4 2 THRU 10 WELDING CAP, WALL THICKNESS AND MATERIAL TO
CONFORM WITH WELDING FITTINGS.

N-49 WELDING FITTINGS TO BE B & W, FLOWLINE,
LADISH, MIDWEST, TAYLOR FORGE OR TUBE-TURN.

FLANGES

F-87A-RF 1/2 THRU 1-1/2 300# RAISED FACE THREADED FLANGE, ASTM
A-182 GR F-316, ANS (ASA)B16.5.

F-SP- 2 THRU 10 300-LB RAISED FACE WELDING NECK FLANGE, ASTM

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A-182 GR F-316, ANS (ASA)B16.5, BORE TO MATCH
PIPE.

BRANCH CONNECTIONS

BC-2S

FOR THREADED PIPING, USE STRAIGHT SIZE OR
REDUCING TEE. WHEN BRANCH IS SMALLER THAN
HEADER, A NIPPLE AND REDUCING COUPLING OR
SWAGED NIPPLE MAY BE USED.

BC-44W

FOR WELDED PIPING, WHEN HEADER SIZE IS 6
INCH OR SMALLER BRANCH LINES MAY BE WELDED
IN WITHOUT REINFORCEMENT REGARDLESS OF SIZE
COMBINATION. FOR HEADER SIZE 8 INCH OR
LARGER, USE WELDING TEE WHEN BRANCH IS SAME
SIZE AS HEADER, USE WELDOLET OR REINFORCED
NOZZLE WHEN BRANCH IS SMALLER THAN HEADER.
FOR THREADED BRANCH CONNECTION, USE
THREDOLET OR 3000-LB FULL COUPLING WELDED TO
HEADER. FOR SOCKET WELDING BRANCH
CONNECTION, USE SOCKOLET OR SOCKET WELDING
COUPLING WELDED TO HEADER.

G-24

SPIRAL-WOUND, 316 STAINLESS STEEL-ASBESTOS
GASKET, FLEXITALLIC STYLE CG. WITH
STAINLESS STEEL RETAINING RING.

JOINT COMPOUND

JC-15

TEFLON TAPE 1/2 INCH BY 3 MIL THICKNESS,
SCOTCH BRAND 547.

FLANGE BOLTS

B-5

ASTM A-193 OR A-320 GR B-8 AUSTENITIC STEEL
BOLT-STUDS WITH ASTM A-194 GR 8 HEAVY HEX
NUTS.

BOLT LUBRICANT

BL-2

FEL PRO C-5A.

VALVES

V-579C 1/2 THRU 1 1/2

600-LB SCREWED OS/Y SOLID WEDGE GATE VALVE,
316 STAINLESS STEEL FOR CRYOGENIC SERVICE TO
MINUS 200F, BOLTED BONNET.
ALOYCO 4210-A
CRANE 66170
HANCOCK 3611

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		JENKINS 8888D LADISH 8663 PACIFIC S-51 PERSTA 7605.3SS POWELL 1972A
V-588C	2 THRU 10	300-LB FLANGED OS/Y SOLID WEDGE GATE VALVE, 316 STAINLESS STEEL FOR CRYOGENIC SERVICE TO MINUS 200F. ALOYCO 2217 CRANE 63176 HANCOCK 125SW LADISH 8375 PACIFIC S35 OR S530 PERSTA 7603.1SS POWELL 2467
V-679C	1/2 THRU 1 1/2	300-LB SCREWED OS/Y GLOBE VALVE, 316 STAINLESS STEEL FOR CRYOGENIC SERVICE TO MINUS 200F, BOLTED BONNET. ALOYCO 2310A CRANE 63370 HANCOCK 11 LADISH 7360 PERSTA 2503.3SS POWELL 2446A
V-187	2 THRU 8	300-LB FLANGED OS/Y GLOBE VALVE, ASTM A-352 GR LC-3 BODY, 316 STAINLESS TRIM, BOLTED BONNET, FOR MINUS 150F SERVICE. CRANE 151-L JENKINS 1042-S OIC 3042 PACIFIC LC3-360-12 POWELL 3031 RP-C 3011-M SELLA 3121-F-11LC3 STOCKHAM 30-GPF-12-LC3 WALWORTH 5281-F
V-720C	1/2 THRU 1 1/2	600-LB SCREWED HORIZONTAL LIFT CHECK VALVE, ALL 316 STAINLESS STEEL FOR CRYOGENIC SERVICE TO MINUS 200F, BOLTED CAP. ALOYCO 4550 HANCOCK 2701 PACIFIC S-81 POWELL 2006A VELAN S-2348-13M
V-601C	2 THRU 10	300-LB FLANGED HORIZONTAL SWING CHECK

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VALVE, TYPE 316 STAINLESS STEEL FOR
CRYOGENIC SERVICE TO MINUS 200F, BOLTED CAP.
ALOYCO 2377
HANCOCK 2300
LADISH 5372
PACIFIC S-1130
PERSTA 6563.1SS
POWELL 2346A OR 3061A-SS
SELLA 7121-F-SS
VELAN F-1114B-13M

V-249 1 THRU 2

300-LB FLANGED 3-WAY, 2-PORT, 90 DEG TURN,
TRANSFLO TYPE PLUG VALVE, ASTM A-352 GR
LC-3, WRENCH OPERATED, LUBRICATED, FOR MINUS
150F SERVICE.
NORD 27305-LC3

V-251 3 THRU 4

300-LB FLANGED 3-WAY, 2-PORT, 90 DEG TURN,
TRANSFLO TYPE PLUG VALVE, ASTM A-352 GR LC-3
BODY, WRENCH OPERATED, LUBRICATED, FOR MINUS
150F SERVICE.
NORD 27335-LC3
WALWORTH 2758-F

ST0404896



THE DOW CHEMICAL COMPANY

TEXAS DIVISION
FREEPORT TEXAS 77541

Date: March 30, 1970

To: Richard Smith

Attached is a copy of Engineering Specification, Piping
Spec. 46-614, Dated 3-24-70, Page(s) 1 thru 4 of 4
which is in final form for issuing.

If this specification meets your approval, please sign below and
return.

Issuing date has been set for 4-15-70. To meet this
deadline this copy must be returned promptly as it cannot be issued
until we receive your signature as approved.

Note: (R) on the specification indicates revision.

APPROVED: R. Smith/wsc Date: 4/1/70

NOT APPROVED AS MARKED: _____ Date: _____

RETURN TO:

Angie H. Barnes
Building A-1201

ahb

ST0404892

ST0404892



THE DOW CHEMICAL COMPANY

TEXAS DIVISION
FREEPORT TEXAS 77541

Date: April 22, 1969

To: _____

Attached is a copy of Engineering Specification, Feeding
Spec. 45-630, Dated 4-15-69, Page(s) 1 of 2
which is in final form for issuing.

If this specification meets your approval, please sign below and
return.

Issue date has been set for 5-15-69. To meet this
condition this copy must be returned promptly as it will be issued
until we receive your signature as approved.

See ② in the specification indicates revision.

APPROVED: Don M. Harnage Date 4-29-69

RECEIVED

April 22, 1969
Building 1-1801

akb

RECEIVED

APR 29 1969

Q. A. SECTION

ST0404897

ST0404897



DOW CHEMICAL U.S.A.

TEXAS DIVISION
FREEPORT, TEXAS 77541

DATE: 7-7-81

TO: B. H. Howard

BLDG. B-2401

Attached is a copy of Engineering Specification, 46-652

which is in form for issuing.

If this specification meets your approval, please sign below and return.

In order to meet our projected issue deadline this copy MUST be returned
by July 8, 1981, to Lana Hendershott at B-2401.

APPROVED: B. H. H. DATE: 7-8-81

APPROVED AS MARKED: _____ DATE: _____

Lana

Lana Hendershott
Engineering Specifications
B-2401
Phone: 1641

JCH
2 R's on pg 2
Why are we issuing all pgs?

The spec's in the book are off the old
one. The "B" look like it.
B. H.

ST0404930

AN OPERATING UNIT OF THE DOW CHEMICAL COMPANY



ST0404930

ITEM	SIZE	DESCRIPTION
		STEEL TRIM, BOLTED CAP.
V-90	2 THRU 3	300-LB FLANGED HORIZONTAL SWING CHECK VALVE, CARBON STEEL BODY, 13 CHROME ALLOY STEEL TRIM, BOLTED CAP.
V-97	1/2 THRU 1-1/2	300-LB SCREWED CARBON STEEL, LUBRICATED, PLUG VALVE WITH TAPERED PLUG, WRENCH OPERATED.
V-98	2 THRU 4	300-LB FLANGED CARBON STEEL, LUBRICATED, SHORT PATTERN PLUG VALVE WITH TAPERED PLUG, WRENCH OPERATED.
V-255	6 THRU 8	300-LB FLANGED CARBON STEEL, LUBRICATED, VENTURI PATTERN PLUG VALVE WITH TAPERED OR INVERTED TAPERED PLUG, WRENCH OPERATED.
V-89	6 THRU 24	300-LB FLANGED CARBON STEEL, LUBRICATED, VENTURI PATTERN PLUG VALVE WITH TAPERED OR INVERTED TAPERED PLUG, WORM GEAR OPERATED.

ST040494C

METHANE
450 Psig Maximum

Piping System

Series 300-1

Except: G-9
JC-15

Valves (For General Valve Index See Engineering Specification 48-900)

$\frac{1}{2}$ " thru $1\frac{1}{2}$ "	V-367 (Gate)	800-lb. screwed, OS/Y, solid wedge, gate valve, carbon steel body, 13 chrome alloy steel trim with hard-faced seat rings.
$\frac{1}{2}$ " thru 2"	V-618 (Gate)	300-lb. flanged, OS/Y, solid wedge, gate valve, carbon steel body, 13 chrome alloy steel trim, hard-faced seats.
3" thru 24"	V-93 (Gate)	300-lb. flanged, OS/Y, wedge, gate valve, carbon steel body, 13 chrome alloy steel trim with nickel alloy seat rings.
$\frac{1}{2}$ " thru $1\frac{1}{2}$ "	V-104 (Globe)	600-lb. screwed, OS/Y, globe valve, carbon steel body, 13 chrome alloy steel trim with hard-faced seat, bolted bonnet.
2" thru 8"	V-91 (Globe)	300-lb. flanged, OS/Y, globe valve, carbon steel body, 13 chrome alloy steel trim, bolted bonnet.
$\frac{1}{2}$ " thru $1\frac{1}{2}$ "	V-102 (Check)	600-lb. screwed, horizontal lift, check valve, carbon steel body, 13 chrome alloy steel trim, bolted cap.
1" thru 8"	V-90 (Check)	300-lb. flanged, horizontal swing, check valve, carbon steel body, 13 chrome alloy steel trim, bolted cap.
$\frac{1}{2}$ " thru $1\frac{1}{2}$ "	V-87 (Plug)	300-lb. screwed, carbon steel, lubricated, wrench operated, plug valve.
2" thru 4"	V-88 (Plug)	300-lb. flanged, carbon steel, lubricated, short pattern, wrench operated, plug valve.
6" thru 8"	V-858 (Plug)	300-lb. flanged, venturi pattern, plug valve, carbon steel, wrench operated, lubricated.
6" thru 14"	V-89 (Plug)	300-lb. flanged, carbon steel, lubricated, venturi pattern, worm gear operated, plug valve.

* General Revision

ST0404941

ST0404941



DOW CHEMICAL U.S.A.

TEXAS DIVISION
FREEPORT, TEXAS 77541

DATE: 11-29-79

TO: Benny Howard

BLDG. B-2401

Attached is a copy of Engineering Specification, 46-652
which is in form for issuing.

If this specification meets your approval, please sign below and return.

In order to meet our projected issue deadline this copy MUST be returned
by 12-10-79, to Reva Young - B-2401.

APPROVED: B. H. H. DATE: 11-30-79

APPROVED AS MARKED: _____ DATE: _____

Reva Young
Engineering Specifications
B-2401
Tel. 1641

AN OPERATING UNIT OF THE DOW CHEMICAL COMPANY



ST0404936

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