



Manila, Feb 12-13 2015

CONTAINERIZATION OF DRY BULK INCREASES PORT PROFITABILITY

B Velan
Managing Director







Dimension of General Purpose Containers

CONTAINER				Capacity		Recommended Load Volume	
Nominal Dimension	Length	Width	Height	Cubic Feet	Cubic Meter	Cubic Feet	Cubic Meter
External	20'	8'	8' 6"				
	6.096 m	2.438 m	2.591 m				
Internal	19' 4.25"	7' 8.625"	7' 10"	1170 cft	33.131 cbm	1000 cft	28 cbm
	5.899 m	2.353 m	2.388 m				



Common Dry Bulk Materials that can be handled in lined containers

- Alumina
- Abs resin
- Barley
- Wheat
- Cattle feed
- Cement
- Clay
- Coal
- Coffee beans
- Feldspar
- Rock phosphate
- Groundnuts
- Milk powder
- Polyester chips/pp/pe/nylon
- Pigments
- Flour
- Pvc resin
- Salt
- Seeds
- Sugar
- Soya beans
- Soda ash
- Tea Leaf
- Urea
- Detergents
- PTA
- Corn
- Lentils
- Peas
- Starch
- Chemicals



Chemicals

ABS Resin
Aluminium Powder
Aluminium Resin
Fertilisers (certain)
Glass Beads
Nylon Polyer Chip
Polyester Granules
Polyethylene Granules
Polycarbonate Granules
Polypropylene Granules
PVC Granules
PTA
Soda Ash
Catalysts (certain)
PE Resin
PP Resin
PS Resin
PVC Resin
Pigments
Zinc Powder
Detergents

Foodstuffs

Barley
Cattle Feed
Cocoa
Coffee Beans
Corn
Fishmeal
Flour
Ground Nuts
Lentils
Milk Powder
Mixed Grain Feed
Nuts
Peas
Rice
Salt
Seeds
Soya Beans
Starch (certain)
Sugar
Tea Leaf
Wheat



Minerals

Anhydrite Binder

Bentonite Clay

Gypsum

Silica

Talcum Powder

Tri-poly Phosphate

Vanadium Slag

Aluminium Fluoride

Bleaching Earth

Zeolite



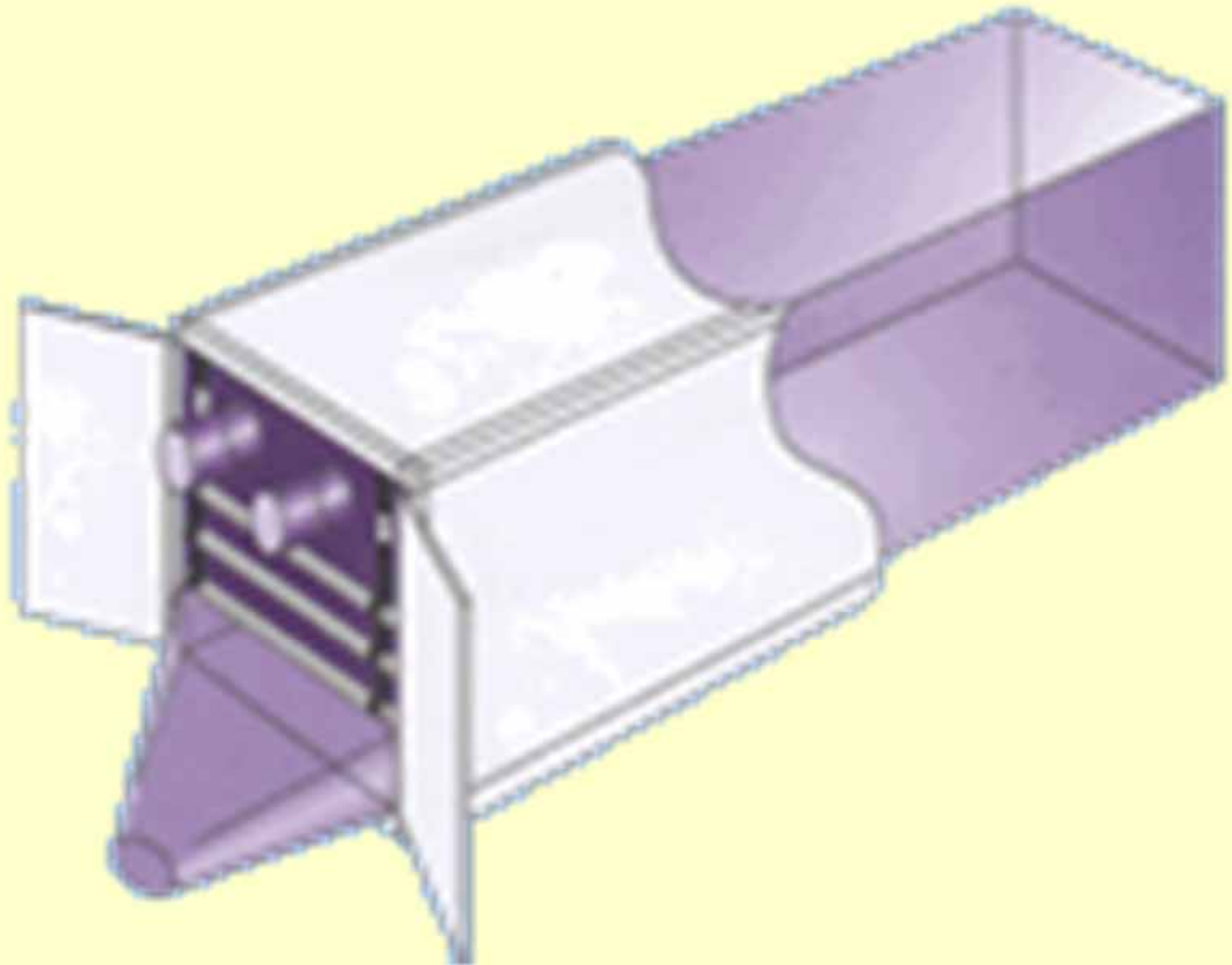
SAMPLE STATISTICS

- Cement Production in 2104 in the Philippines – 21 million tonnes
- Assuming 90% is packed in 50kg bags, total no of bags:
 - 370 million
- Sugar Production, CY 13-14 1 million tonnes
 - No of bags of 50kg : 20 million

NO OF BAGS PER YEAR: say 400 million

NO OF BAGS PER DAY: 1 Million

IF CONTAINERS REPLACE BAGS, NO OF CONTAINERS(at 25T per container) : 800000/yr

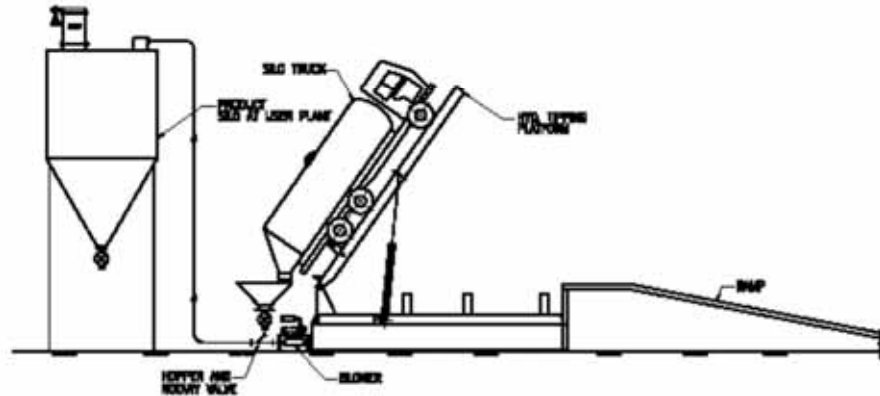
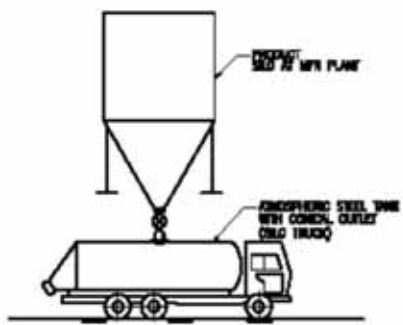
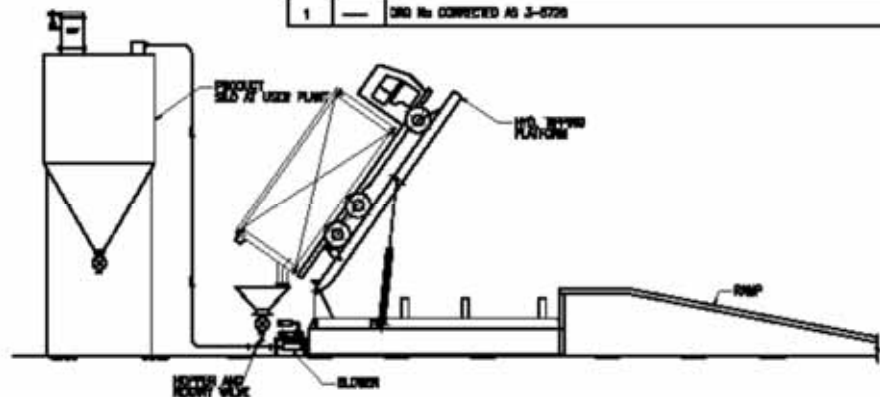
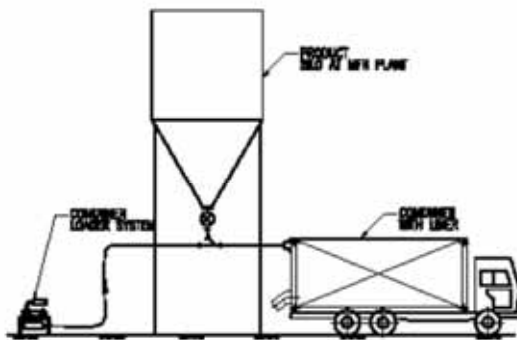






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REV	ZONE	DESCRIPTION	BY	CHKD	DATE
0		FIRST ISSUE	RVK		30/08/11
1		DRG No CORRECTED AS 3-5726	RVK		17/1/12



SCORPIO ENGINEERING PVT LIMITED
BANGALORE INDIA

REMOVE ALL BURRS AND SHARP CORNERS. TAPPED HOLES TO BE COUNTERSUNK. UNSPECIFIED FILLETS AND RADI TO BE 3 mm.		THE COPY RIGHT OF THESE DRAWINGS AND OF ENCLOSURES CONTAINED TO THE RECIPIENT PERSONALLY REMAINS THE EXCLUSIVE PROPERTY OF THIS FIRM. WITHOUT OUR WRITTEN CONSENT THEY MAY NOT BE COPIED OR REPRODUCED OR BELIEVED OR MADE KNOWN TO THE THIRD PARTIES.	
DRN : RAGHVENKAR	DATE : 30/08/2011	ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED	
CHKD :	DATE :	 THIRD ANGLE PROJ.	SCALE : N.T.S
APPD :	DATE :		

TITLE :- **DRY BULK LOGISTICS ROAD MOVEMENT (ALSO RAIL)**
SHEET 1 OF 2

DRG NO. 3-5726	REV 1
SHEET 1 OF 2	



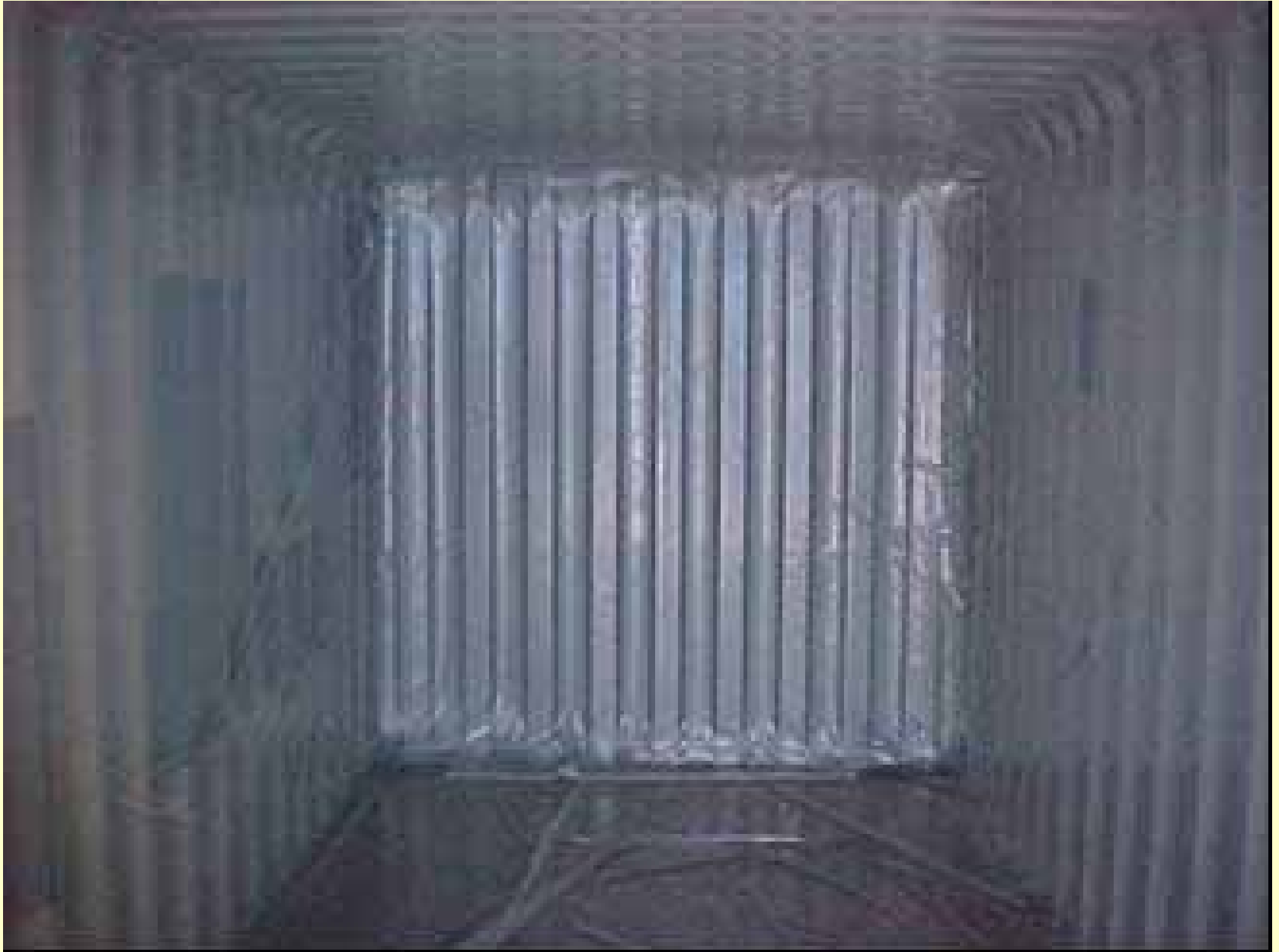
Positioning of the containerliner











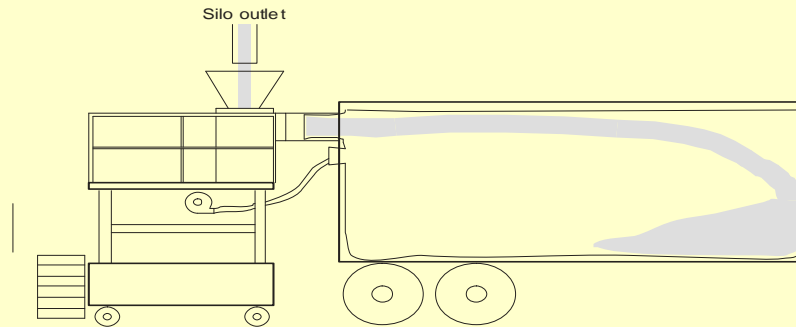




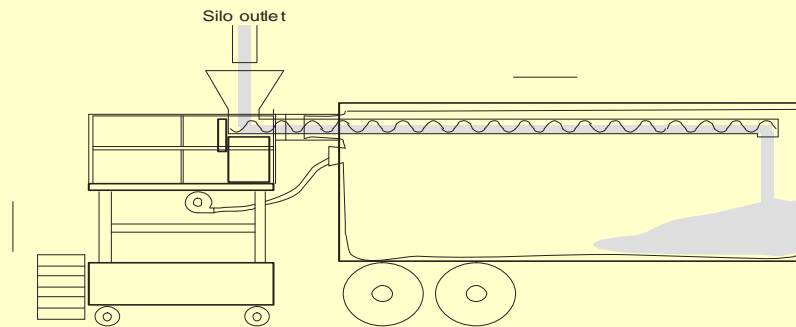


FILLING OF CONTAINER

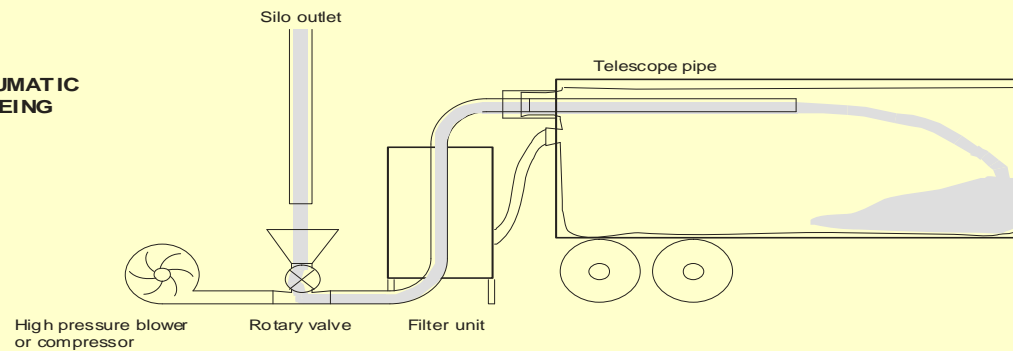
1. BELT THROWER Granules



2. AUGER Powder



3. PNEUMATIC CONVEYING









Filling by gravity













20ft container

Bucket
elevator

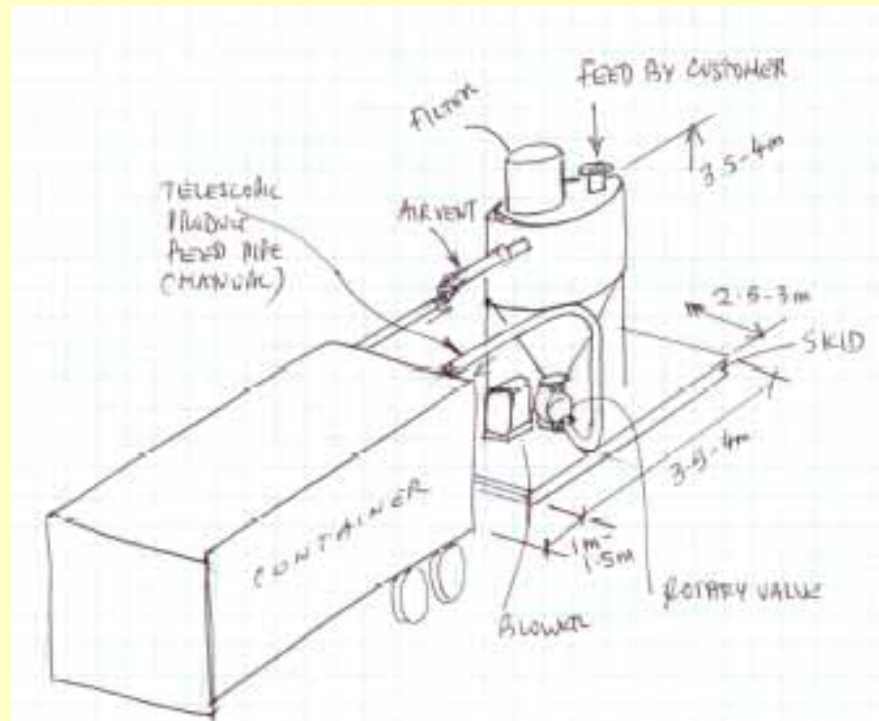
Feed
hopper

Hydr
tilting
platform





Pneumatic filling



CONTAINER LOADER

CAP 30 TON

HP 30

PRODUCT: MALT (BO 600kg/m³)



SCORPIO
ENGINEERING

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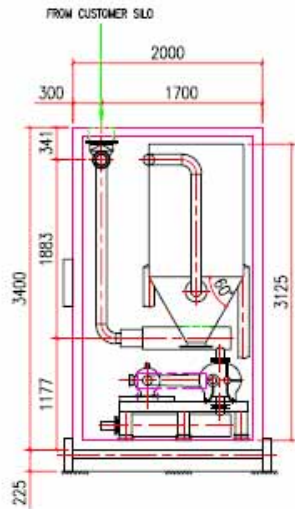
Specialized Technologies

- In-line Dair Handling
- Bulk Filling
- Long Distance Bulk / Fine
Containing Systems
- Port Bulk Handling / Coarse
Discharge
- Mobile Hoppers
- Grain Handling Systems

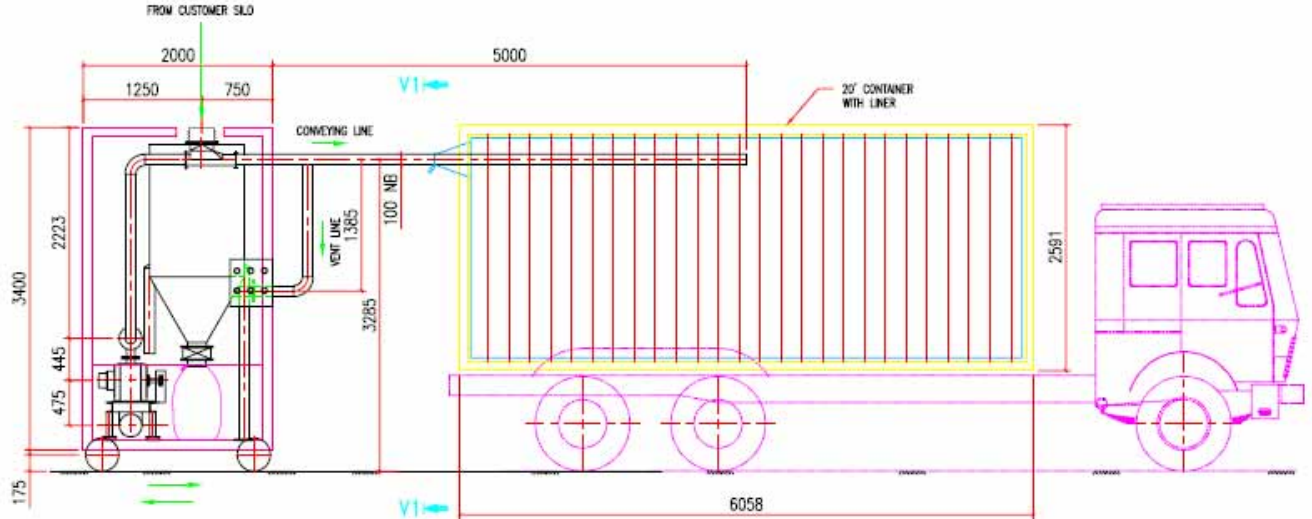
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Pneumatic filling



VIEW V1-V1

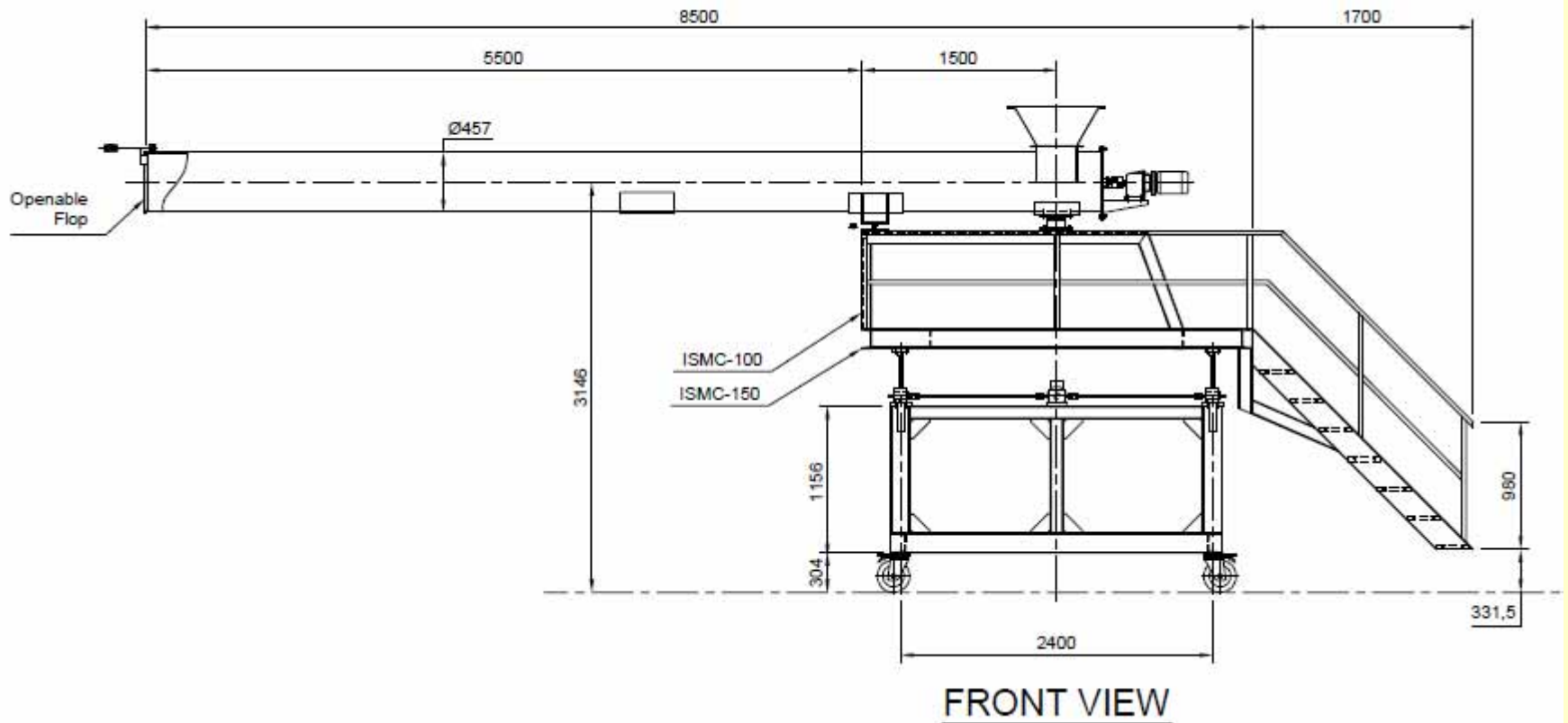


ELEVATION

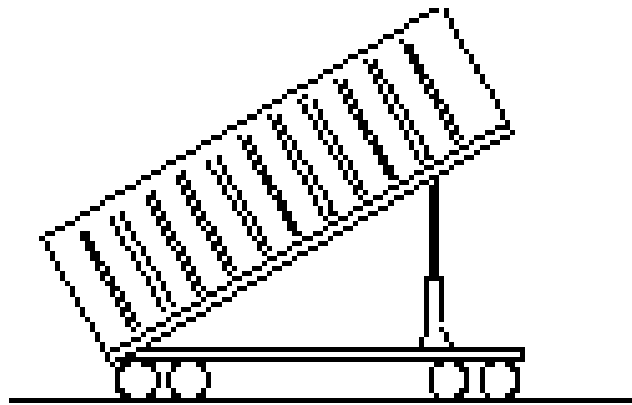




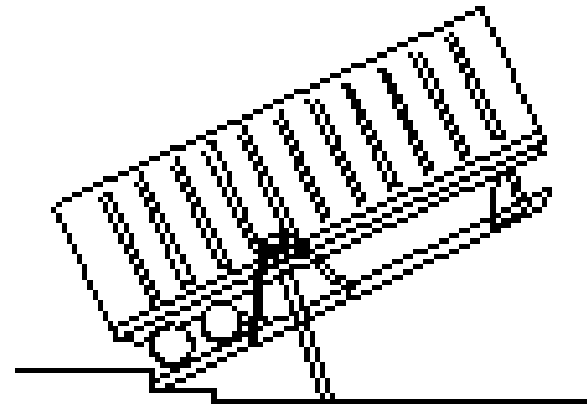
Mechanical Filling with densification



Discharging of the liner



Chassis Tilt

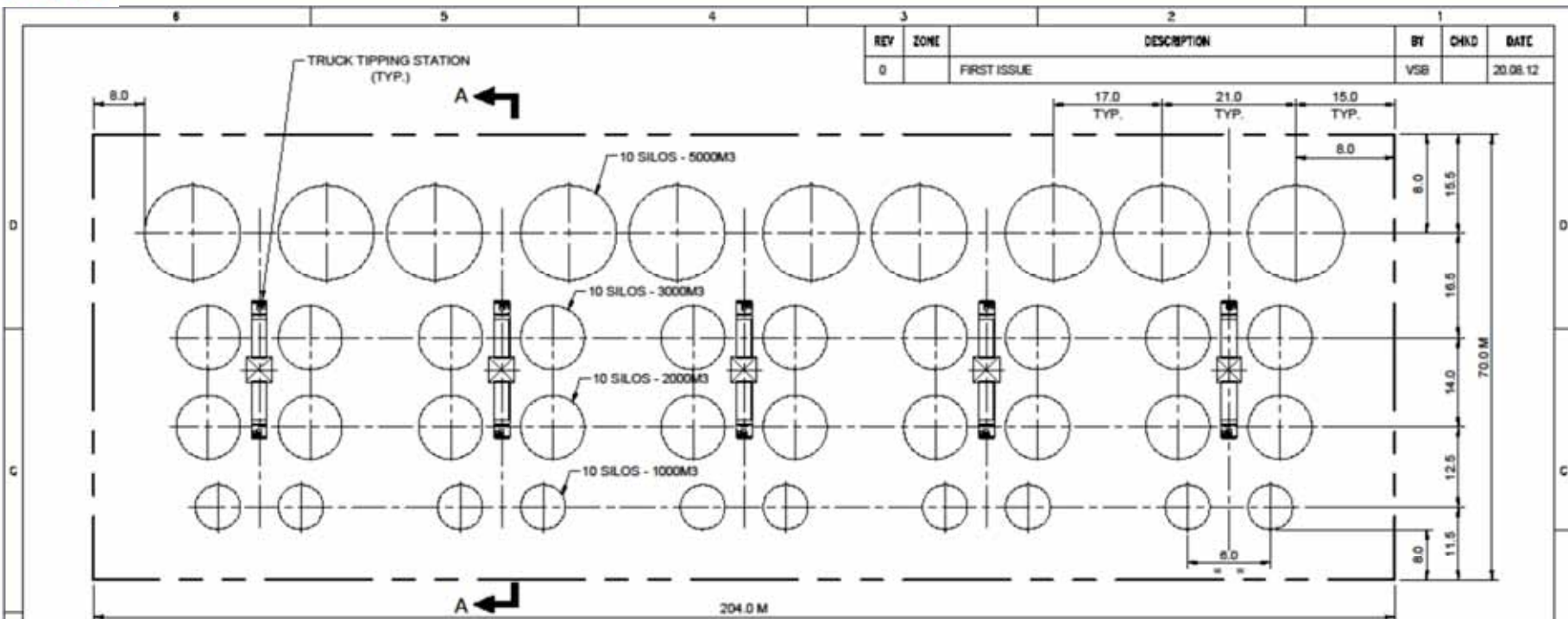


Platform Tilt





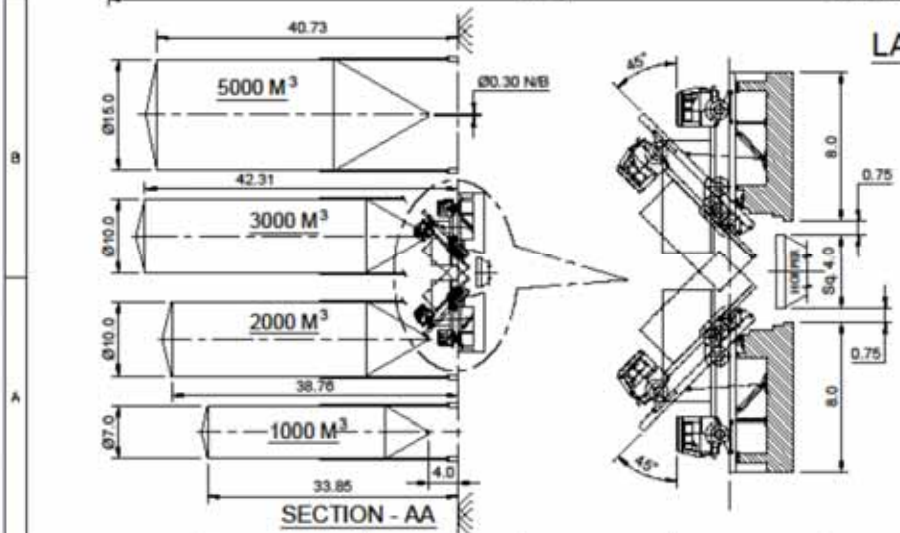






REV	ZONE	DESCRIPTION	BY	CHKD	DATE
0		FIRST ISSUE	VSB		20.08.12

LAYOUT FOR 100000T DRY BULK LOGISTICS PARK

AREA : 14280 M² (3.5 Acres)



NOTE:-
ALL DIMENSIONS ARE IN METERS

 SCORPIO ENGINEERING PVT LIMITED BANGALORE INDIA	
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DRN : SAMSON	DATE : 20.08.12
CHKD :	DATE :
APPD :	DATE :
ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED SCALE : N.T.S. 	
TITLE :- 100000T DRY BULK LOGISTICS PARK	
DRG NO. 3-5959	REV 0



SUMMARY and CONCLUSION

CONTAINERS CAN BE EFFECTIVELY DEPLOYED FOR THE MOVEMENT AND HANDLING OF DRY BULK MATERIALS.

THIS ADDS TO EXISTING CONTAINER POPULATION AND INCREASED CONTAINER UTILISATION FOR PORTS AND SHIPPING LINES

THE CONCEPT REQUIRES SILOS AT BOTH SUPPLIER AND RECEIVER ENDS AND SOME CAPITAL EQUIPMENT AT BOTH ENDS.

THE OVERALL ECONOMICS PROVE THAT IT IS CHEAPER TO HANDLE DRY BULK IN CONTAINERS THAN IN BAGS OR IN BULK ESPECIALLY FOR DOMESTIC LOGISTICS IN ANY COUNTRY.