

DEPARTMENT OF CHEMICAL ENGINEERING

CHEMTECH

**Year 2021-22
(Semester-I)**

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Types of Supports for Vessels

Technical Event

FDP/Seminar/Workshop
Attended/Faculty Awards

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Lecture /
Workshops Conducted



Vision

To impart quality education to produce Competent Chemical Engineers

Mission

1. To create an effective atmosphere for academic excellence
2. Impart quality education in basic and applied areas of Chemical Engineering
3. Enable students to explore knowledge through creative learning by industry institution collaboration
4. Inculcate values of leadership, teamwork and ethics

About Department

It is a great pleasure to welcome you to the Department of Chemical Engineering at Dr. D Y Patil Institute of Engineering and Management and Research. The Department of Chemical Engineering was started in the year 2012 with an intake of 60 students. The Chemical Engineering Department is proud to have a team of energetic and hardworking staff and we are blessed to have among the finest and talented students admitted into our department recognized for high-quality academic programmes and excellence of its motivated faculty. We are committed to give our students an environment where they can develop critical thinking and problem-solving skills as they advance through the programme. In addition to classroom teaching, the students are guided and motivated to practically implement the principles learnt in classrooms through experimentations in the laboratories, which help students gain confidence and become skilled engineering professionals.

Types of Supports for Vessels



Type of supports to be provided to a vessel depend upon its configuration, height to diameter ratio of the vessel, convenience of location, operating temperature and materials of construction. The attachment of support at suitable location helps to transfer the load from the vessel to support safely. Cylindrical vessels can be installed either in vertical position or horizontal position and the types of supports for such installations are different. Similarly, for spherical vessels, the types of supports required vary considerably as compared to cylindrical vessels. It is necessary to analyze the stresses induced very carefully, so that adequately strong and cost effective supports can be provided. Supports failure can lead to major hazards in a chemical process plant.

Design of Supports for Vessels

Type of supports to be provided to a vessel depends upon its configuration, height to diameter ratio of the vessel, convenience of location, operating temperature and materials.

There are four types of supports commonly used.

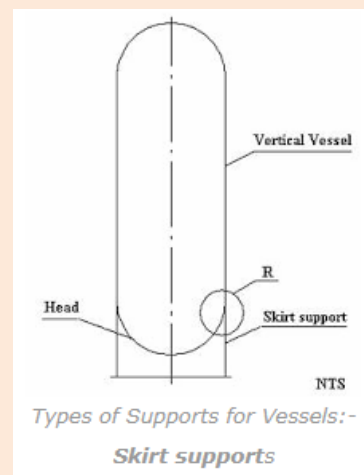
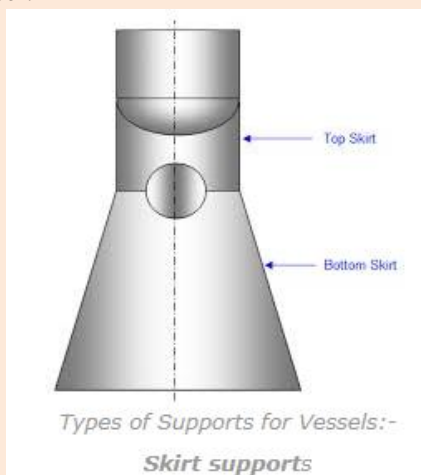
1. Skirt support
2. Bracket or Lug support
3. Saddle support
4. Leg support

Tall vertical columns and heat exchangers are often supported on skirts. Medium size process vessels having height to diameter ratio 2-3 are provided with bracket or lug supports.

Horizontal vessels are usually provided with saddle supports. Small vessels of capacity 1-2 m³ are provided with leg supports.

Skirt supports

Tall columns such as distillation column, absorption column are provided with skirt support. From a designer point of view, skirt support is attractive because it produces minimum amount of local stresses caused by mechanical loads acting at its junction with the vessel.



Skirt is a cylindrical shell having diameter equal to outside diameter of the vessel or more than the outer diameter of the vessel. It is welded at the bottom of the vessel and rests over a bearing plate which rests over concrete foundation.

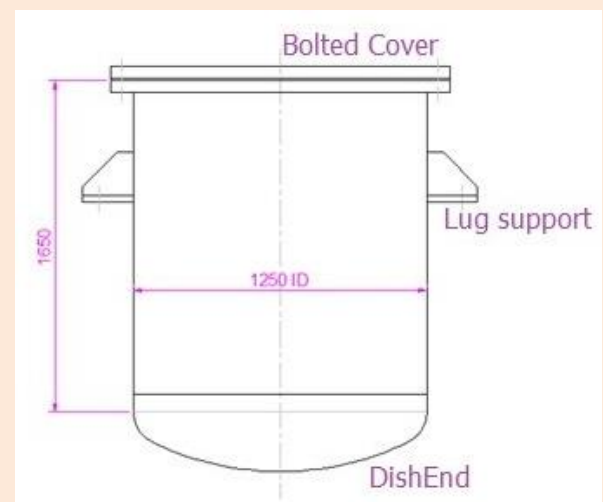
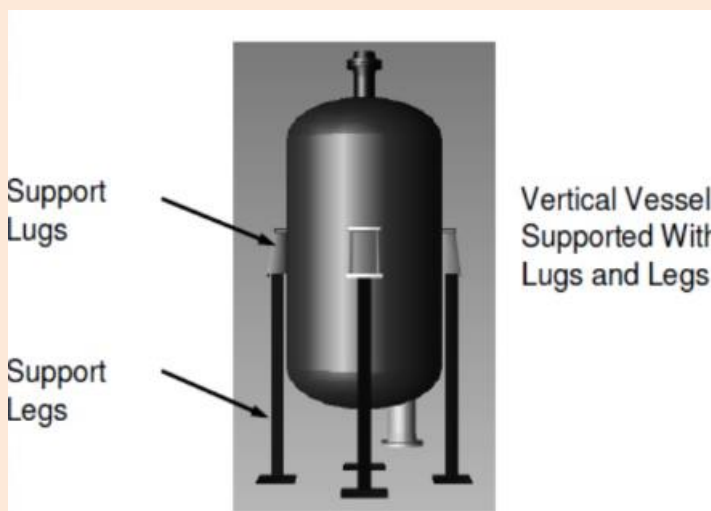
Skirt support is designed by considering the following loads:

1. Dead weight of the vessel.
2. Operating weight of the vessel.
3. Lateral loads by restrained thermal growth of interconnecting pipes.
4. Wind load acting over the vessel.
5. Seismic load

To calculate the skirt thickness all these loads are required to be considered

Bracket or Lug Supports

Bracket supports are very common for process equipments. Vertical vessels with height to Diameter ratio 2-3 are generally provided with bracket supports. These are fabricated from plates and attached to the vessel with minimum possible weld length. Brackets rests on columns or structural beams. A vessel with bracket support is shown below. There are many advantages of the bracket supports.



Types of Supports for Vessels:- Bracket or Lug Supports

Types of Supports for Vessels:- Bracket or Lug Supports

Saddle Supports

Horizontal vessels are generally provided saddle supports.. If the underside of the vessel is to be located only a short distance above the ground line, steel saddles resting on the top of concrete piers can be used.



Horizontal vessels resting on saddle support is shown in Fig. The vessel behaves like a beam. Number of saddles is generally two. It can be more if unavoidable. Supports in the form of ring are preferred if it is required at more than two positions.

In selecting the location of saddle supports, advantage of stiffening effect offered by the head is taken into account.

Article source: Chemical Engineering World

Online Technical Events



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TECHNOVISION 2021

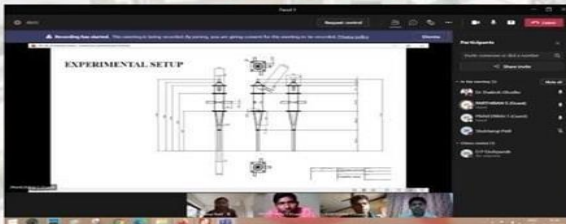
National level Online Project / Paper Presentation Competition



Inaugural of "Technovision 2021" in presence of Faculty and participants



Conduction of Paper presentation



Conduction of Project presentation

Event Highlights

- National level project / paper presentation
- Event conducted in association with IChE
- Participants from recognized universities and institutes
- 10+ projects and 15+ papers presented their work
- Sponsered prizes for winners



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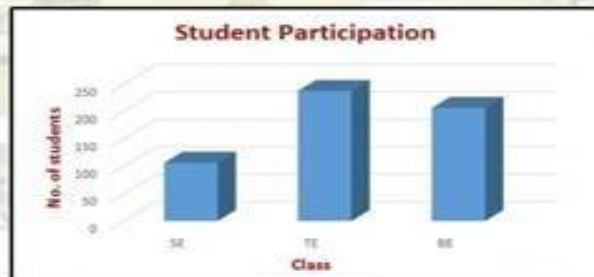
DEPARTMENT OF CHEMICAL ENGINEERING

QUIRIOUSITY 2.0

National level Online Technical Quiz Competition

Dr. D. Y. Patil Institute of Engineering, Management and Research, Akurdi
Department of Chemical Engineering & DYPIEMR IChE Student Chapter
Presents
QUIRIOUSITY 2.0
National Level Online Technical Quiz
28th Aug 2021
Registration ends on 27th Aug 2021
Certificates to all successful participants
No registration fees
Note: Separate quizzes for SE, TE, BE

Event Poster



Online registration form

Event Highlights

- National level online technical quiz
- Event conducted in association with IChE
- Participants from recognized universities and institutes
- 554 participants from 19 states of India



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DEPARTMENT OF CHEMICAL ENGINEERING

On the occasion of Engineer's Day organised

CHEMSPARK 2021

National level Online Poster Presentation Competition



Innauguration



Poster presentation



Poster presentation

Event Highlights

- National level online poster presentation
- Event conducted in association with IChE Student's Chapter
- Participants from recognized universities and institutes
- 56 participants from 6 states of India

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Online Industrial Visit/Tours



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Department Of Chemical Engineering

Organized Online Industrial Tour /Visit for BE Chemical Students at
Datta Hydro Chem (P) Ltd. (DHCPL), Kurkumbh, Pune on 11th May 2021

DATTAHYDRO CHEM (P) LTD.

PETROLEUM ETHER MANUFACTURING

MARKETING UNITS

MANUFACTURING PROCESSES

Contact Us : 9923602492,9763581572

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Students Achievements



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Internships

- Rastriya Chemicals and Fertilizers, Alibag
- Grasp Anything : Student Journalist

Certificate

- NPTEL : 2
- Co-curricular : 5

Academics

- FE CGPA : 8.4
- SE CGPA : 8.4
- TE CGPA : 9.1
- BE CGPA : 9.9

Courses

- COURSERA : 9
- KROHNE : 5



Profile of
**Mr. Pushpendra
Ghylot**
BE 2020-21

Congratulations on your achievements !!

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Internships

- Green Circle, Inc. : Safety and Risk Management Trainee
- IFORTIS Worldwide : Marketing & sales trainee
- SUDARSHAN Chemicals Ltd : Effect Pigment division
- Academy of Skill Development : MATLAB and AUTOCAD

Academics

- FE CGPA : 7.1
- SE CGPA : 9.2
- TE CGPA : 9.4

Courses

- COURSERA : 8
- KROHNE : 2

Certificate

- Advanced Computational Fluid Dynamics



Profile of
**Ms. Rutuja
Bangar**
Final Year
Student

Congratulations on your achievements !!

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Faculty Achievements

DYP
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INDIA PRIME QUALITY EDUCATION AWARDS 2021

Congratulations !!

DR. UTKARSH MAHESHWARI
Associate Professor
Department of Chemical Engineering
Being Honored for his Exemplary
Contributions in Education



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Congratulations!

DR. UTKARSH MAHESHWARI
Associate Professor
Department of Chemical
Engineering

Elected as
**Honorary Secretary for Indian
Institute of Chemical Engineers
(IChE) Pune Regional Center
for 2021-22**



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Online Induction Program



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Virtual SE Induction Program



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Alumni Talk



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ALUMNI TALKS



Mr. VINIT PONKSHE
(Alumni Batch 2019)
Perusing MS from
University of Melbourne

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Faculty Development Programme Attended /Workshop/Seminar

Name of Faculty	No. of Publications National & International/FDP Attended
Dr.Shailesh Ghodke	10
Dr.Utkrash Maheshwari	25
Mr.D.P.Deshande	10
Mrs.Kirti B Zare	10
Mrs.S.S.Patil	5
Mr.Pankaj Vardhe	5
Mr.Ramansingh Thakur	5

Higher Studies in Chemical Engineering



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DEPARTMENT OF CHEMICAL ENGINEERING HIGHER STUDIES IN CHEMICAL ENGINEERING



Ms. SMITAL KALLURKAR
Univ. of Manchester, UK
(BATCH: 2016-17)



Mr. PARAG SATAM
University of Illinois, USA
(BATCH: 2017-18)



MR. VINIT PONKSHE
University of Melbourne
(BATCH :18-19)



Mr. PRATIK LOKHANDE
University of Bristol, UK
(BATCH: 2015-16)



MS. NILAKSHI DINESH
University of Dayton, Ohio
(BATCH :18-19)



Mr. SAHIL SETHI
Chalmers Univ. of Tech., Sweden
(BATCH: 2015-16)



MS. DOHA JOSHI
RMIT University, Melbourne
(BATCH :18-19)



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Online Webinar

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WEBNIAR ON

**"Career Opportunities for
Chemical Engineering Graduates"**

Register Now!!

<https://forms.gle/ZpTQr4kY3Grbtauq7>



August 18, 2021

Time : 11 AM to 12 Noon

LIVE @dypiemrAkurdi



Speaker

Mr. Yogesh Surve

*Project Manager,
Honeywell Automation
India Ltd Pune*

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